HIGH SCHOOL CERTIFICATION
ANNUAL REPORT
1989

DIVISION OF EVALUATION AND RESEARCH
(HIGH SCHOOL CERTIFICATION)
DEPARTMENT OF EDUCATION
NEWFOUNDLAND

Authorized by the Minister of Education
St. John's, Newfoundland

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PREFACE

The Senior High School Certification Annual Report is produced by the Department of Education for two primary purposes: to provide a convenient, concise record of high school evaluation documents and results, and to constitute a convenient means to make this information available to schools, school boards, and other interested parties. Since the purpose is to record rather than to analyze, all statistical data are presented in raw form, and no interpretations or conclusions are made.

The report consists of four sections containing respectively statistical summaries of the results, Chief Markers' Reports, and copies of the June and the November Public Examinations Papers. The statistical summaries provide a convenient written record of results and a basis for a variety of useful analyses by individual schools or other institutions for their own purposes.

Chief Markers' reports are included, not only as a record for Departmental purposes, but equally importantly for the benefit of secondary school teachers throughout the Province who find the critques and suggestions contained therein of considerable value for their own efforts in testing at all levels. Especially, much consideration is given to these reports each year as the Department of Education attempts to continually improve the quality of the examinations and the effectiveness of the system generally.

Finally, secondary school teachers have long appreciated the Annual Report as a source of testing items and other suggestions to be used for student review and orientation. Through the means of annual publications of this report, examination papers and performance records have been preserved over the years and are readily available to educators for such purposes as they consider appropriate.

DEPARTMENT OF EDUCATION
DIVISION OF EVALUATION AND RESEARCH
(HIGH SCHOOL CERTIFICATION)

PERSONNEL

Director of Evaluation and Research
Dr. Lenora Perry-Fagan, B.A., B.A. (Ed.), M.Ed., Ph.D.

Assistant Director of Evaluation and Research
(High School Certification)
Mr. Leonard C. Badcock, B.A., B.A. (Ed.),M.Ed.

Public Examinations Administrator
Mrs. Catherine Maloney

Clerical and Secretarial Staff
Mrs. Marlene Marshall (PE)
Mrs. Helen Gibbons (PE)
Mr. Gerard Power (PE)
Ms. Sharon Downey (GED)
Mrs. Carol Thistle (Sec.)

SECTION I
1989 RESULTS SUMMARIES

TABLE I
GENERAL RESULTS SUMMARY 1989

	Number (and Percent) of Graduates			
Graduation Status	**June Term**	**September Term**	**November Term**	**TOTAL**
Honours	1193(13)	0(0)	3(0)	1196(14)
Distinction	564(6)	0(0)	2(0)	566(6)
Pass	5364(61)	56(68)	208(21)	5623(63)
Total Actual	7121(80)	56(68)	208(21)	7385(83)
Total Prospective*	8855(100)	82(100)	986(100)	8855(100)

*Prospective graduates are students who attempted appropriate courses in the term to satisfy all outstanding graduation requirements.

TABLE II
JUNE 1989 RESULTS IN SCHOOL - ONLY EVALUATED COURSES

Courses	No. of Candidates	No. of Passes	% Passes	Means	Std. Dev.
Art 1200	1181	1097	93	68	14
Art/Des 2200	1076	987	92	68	15
Gen Bus 1101	940	874	93	70	16
Typing 1102	4048	3796	94	74	17
Gen Bus 2101	910	838	92	70	17
Typing 2102	1328	1254	94	73	16
Word Pro 2123	57	57	100	80	10
Language 1101	8755	7970	91	67	15
Bas Eng 1102	1556	1364	88	59	13
Language 2101	8317	7723	93	70	17
Voc Eng 2102	1484	1342	90	62	13
Lang Std 3104	25	21	84	62	23
Bus Eng 3112	29	27	93	66	12
Th Lit 1200	7350	6331	86	62	16
Lit Her 2201	9646	8557	89	64	15
Can Lit 2204	324	306	94	70	15
Foods 1100	1990	1830	92	69	16
Clothing 1101	949	865	91	70	17
Fam Liv 2200	4932	4580	93	70	16
Français 1202	121	117	97	72	12
French 2100	4849	4383	90	68	17
French 2101	4473	3946	88	67	17
Français 2202	75	72	96	72	12
Acc Fren 2221	162	162	100	75	10
Français 3212	24	23	96	72	15
Acc Fren 3221	86	86	100	77	8
Health 1100	2558	2268	89	67	17
H/P Serv 1121	32	32	100	84	9
Dr/Plan 1101	1197	1083	90	67	17
Metalwk 1102	447	419	94	72	14
Electy 1103	836	763	91	68	15
Woodwk 1107	1738	1639	94	69	14
Dr/Plan 2101	413	381	92	70	16
Metalwk 2102	307	287	93	70	15
Pow Mech 2103	782	681	87	65	17
Fd Serv 2105	510	474	93	71	15
Tex Craf 2106	408	389	95	76	15
Woodwk 2107	847	773	91	69	15
Mar Ind 2108	387	377	97	73	14
Hom Main 3108	1354	1279	94	68	13

TABLE II (Cont'd)

Courses	No. of Candidates	No. of Passes	% Passes	Means	Std. Dev.
Adv Math 1201	2553	2492	98	73	14
Con Math 1202	1605	1342	84	60	16
Acd Math 1203	6386	4762	75	58	18
Adv Math 2201	2088	2050	98	73	14
Voc Math 2202	1554	1315	85	60	16
Acd Math 2203	6029	4664	77	59	19
Ch Perf 1103	264	247	94	79	17
Ins Perf 1104	485	466	96	76	14
Th Arts 2200	1120	1078	96	74	13
Phys Ed 1100	5563	5127	92	68	15
Phys Ed 2100	3612	3460	96	72	14
Phys Ed 3100	3955	3806	96	72	14
Dim Rel 1100	5124	4590	90	68	17
Chr Eth 1101	513	459	89	69	18
Way Rev 1102	71	66	93	71	15
Christ 1108	3485	3090	89	68	18
Gods Chu 1126	13	12	92	79	17
P/E Rel 2100	1126	944	84	65	20
Chr Evid 2101	471	424	90	69	17
Jes Chr 2102	65	65	100	73	11
Wor Rel 2104	9	8	89	82	18
Morality 2108	3410	3207	94	73	16
Old Tes 2109	2523	2249	89	68	18
Morality 2118	23	23	100	50	0
Gods Wrd 2126	1	1	100	50	0
V Tes 2139	26	25	96	73	12
Chr Wor 3102	736	678	92	70	17
Ch Today 3108	2404	2297	96	72	15
Church 3112	44	41	93	70	14
Gds Wor 3126	7	7	100	82	8
Gen Sc 1200	1088	932	86	60	15
Topog 2127	17	16	94	67	16
Biology 2201	6847	5542	81	62	18
Chem 2202	4782	4238	89	68	17
Earth Sc 2203	1795	1451	81	59	17
Physics 2204	3752	3267	87	67	18
Phys Sc 2205	1264	1068	84	61	16
Comp Std 2206	4562	4031	88	67	18
Physics 2214	468	403	86	64	18
Cult Her 1200	10140	9085	90	68	18

TABLE II (Cont'd)

Courses	No. of Candidates	No. of Passes	% Passes	Means	Std. Dev.
Can Iss 1201	1090	1002	92	68	16
Con Std 1202	1730	1561	90	66	16
Democ 2102	9732	8650	89	67	18
Can Econ 2103	2627	2230	85	65	19
Can Law 2104	7926	7182	91	68	17
Econ Can 2133	29	29	100	80	8
Dr Can 2134	88	85	97	72	14
Wor His 2206	1560	1322	85	63	18
His Mond 2236	152	144	95	72	13
Car Ed 3101	3399	3178	93	71	16
Inuk 1120	4	4	100	79	5
Inuk 2102	7	7	100	79	10

TABLE III
SEPTEMBER 1989 RESULTS IN SCHOOL - ONLY EVALUATED COURSES

Courses	No. of Candidates	No. of Passes	% Passes	Means
Art 1200	1	1	100	51
Gen Bus 1101	1	1	100	56
Typing 1102	5	3	60	49
Gen Bus 2101	2	1	50	52
Typing 2102	1	1	100	56
Language 1101	133	112	84	56
Bas Eng 1102	14	12	86	51
Language 2101	62	61	98	61
Voc Eng 2102	14	12	86	53
Th Lit 1200	142	113	80	51
Lit Her 2201	166	139	84	57
Foods 1100	4	2	50	45
Clothing 1101	2	2	100	66
Fam Liv 2200	8	4	50	46
French 2100	30	21	70	52
French 2101	32	20	63	51
Health 1100	16	14	88	58
H/P Serv 1121	8	8	100	78
Dr/Plan 1101	1	1	100	55
Electy 1103	1	1	100	50
Woodwk 1107	2	2	100	69
Metalwk 2102	2	2	100	54
Fd Serv 2105	1	1	100	60
Woodwk 2107	2	2	100	67
Hom Main 3108	1	1	100	60
Adv Math 1201	7	6	86	52
Con Math 1202	21	16	76	51
Acd Math 1203	374	332	89	60
Adv Math 2201	16	13	81	66
Voc Math 2202	11	8	73	50
Acd Math 2203	320	277	87	60
Mus Th 2100	1	1	100	100
Mus His 2101	1	1	100	100
Phys Ed 1100	7	7	100	55
Phys Ed 2100	5	6	100	65
Phys Ed 3100	3	3	100	62
Dim Rel 1100	33	27	82	54
Chr Eth 1101	2	2	100	51
Christ 1108	15	13	87	63
P/E Rel 2100	7	6	86	52

TABLE III (Cont'd)

Courses	No. of Candidates	No. of Passes	% Passes	Means
Chr Evid 2101	5	5	100	57
Morality 2108	4	3	75	51
Old Tes 2109	18	14	78	48
Chr Wor 3102	1	1	100	50
Gen Sc 1200	5	5	100	54
Biology 2201	139	107	77	52
Chem 2202	39	27	69	48
Earth Sc 2203	15	12	80	50
Physics 2204	28	18	64	46
Phys Sc 2205	15	13	87	51
Comp Std 2206	28	14	50	44
Cult Her 1200	129	109	84	56
Can Iss 1201	5	2	40	41
Con Std 1201	12	6	50	43
Democ 2102	110	87	79	52
Can Econ 2103	34	29	85	54
Can Law 2104	71	59	83	56
Wor His 2206	10	7	70	49
Car Ed 3101	13	11	85	53

TABLE IV
JUNE 1989 PUBLIC EXAMINATION RESULTS

Courses	No. of Candidates			Means					Percentage Passes				
	Shared	Non-Shared	Total	School Shared	Dept. Shared	Combined Shared	Non - Shared	Total Candi-dates	School Shared	Dept. Shared	Combined Shared	Non-Shared	Total Candi-dates
Art/Des 3200	254	0	254	69	63	66	-	66	92	79	90	-	90
Art His 3202	43	0	43	69	60	65	-	65	95	67	79	-	79
Language 3101	7658	45	7703	67	60	64	50	63	94	83	94	58	94
Bus Eng 3102	1024	2	1206	63	56	60	57	60	92	77	90	100	90
Adv Wri 3103	230	1	231	76	67	72	31	72	98	95	98	0	97
Th Lit 3201	7568	73	7641	66	55	61	47	61	91	66	84	47	83
Lit Her 3202	1432	11	1443	70	54	62	39	62	92	62	83	45	83
Fok Lit 3203	452	3	455	64	59	62	47	62	84	68	80	33	80
Nutrit 3100	928	2	930	66	55	61	53	61	89	65	84	100	84
Textiles 3101	270	1	271	67	60	63	50	63	88	79	89	100	89
French 3200	2995	11	3006	71	65	68	45	68	96	84	94	45	93
French 3201	838	1	839	76	70	73	89	73	98	93	98	100	98
Electn 3104	102	0	102	71	63	68	-	68	98	84	92	-	92
Stats 3104	1552	5	1557	72	70	71	56	71	91	85	91	80	90
Adv Math 3201	1479	3	1482	73	62	68	51	68	94	73	88	67	88
Bus Math 3202	2121	19	2140	64	59	61	46	61	86	73	84	32	83
Acd Math 3203	5298	123	5421	64	59	62	46	62	83	68	80	34	79
Mus Th 3100	31	2	33	80	58	69	60	68	97	68	94	50	91
Mus His 3101	37	0	37	76	71	74	-	74	95	86	95	-	95
Ch Perf 3103	40	0	40	90	72	81	-	81	100	90	100	-	100

TABLE IV (Cont'd)
JUNE 1989 PUBLIC EXAMINATION RESULTS

Courses	No. of Candidates			Means					Percentage Passes				
	Shared	Non-Shared	Total	School Shared	Dept. Shared	Combined Shared	Non - Shared	Total Candi-dates	School Shared	Dept. Shared	Combined Shared	Non-Shared	Total Candi-dates
Ins Perf 3104	122	0	122	81	77	79	-	79	97	97	98	-	98
West Rel 3100	1097	7	1104	68	62	65	47	65	85	72	81	29	81
Wor Rel 3101	113	1	114	70	64	67	27	67	88	81	87	0	86
Gospels 3105	209	2	209	72	57	65	-	65	94	62	83	-	83
New Tes 3109	2483	18	2501	67	59	63	45	63	86	65	78	39	78
Biology 3201	6131	97	6228	68	60	64	52	64	90	74	88	65	88
Chem 3202	2658	9	2667	70	61	66	41	66	93	73	88	22	88
Geology 3203	1765	27	1792	63	60	62	46	61	81	69	80	41	79
Physics 3204	3262	20	3282	69	60	65	51	65	91	72	85	65	85
Env Sc 3205	2705	16	2721	66	67	67	53	67	93	92	95	69	95
Wor His 3201	2378	18	2396	69	57	63	43	63	88	66	81	44	80
Wor geog 3202	6068	51	6119	68	65	67	45	67	88	79	87	31	87
Wor Prob 3204	2145	12	2157	69	59	64	53	64	91	75	88	75	88
Pr Mond 3234	51	0	51	77	79	78	-	78	100	100	100	-	100

TABLE V
NOVEMBER 1989 PUBLIC EXAMINATION RESULTS

Courses	No. of Candidates			Means					Percentage Passes				
	Shared	Non-Shared	Total	School Shared	Dept. Shared	Combined Shared	Non - Shared	Total Candi-dates	School Shared	Dept. Shared	Combined Shared	Non-Shared	Total Candi-dates
Art His 3202	0	2	2	-	-	-	56	56	-	-	-	100	100
Language 3101	0	250	250	-	-	-	47	47	-	-	-	45	45
Bus Eng 3102	2	23	25	66	63	65	51	51	100	100	100	52	54
Th Lit 3201	2	465	467	51	40	46	42	42	50	50	50	32	32
Lit Her 3202	0	38	38	-	-	-	52	52	-	-	-	58	58
Folk Lit 3203	0	8	8	-	-	-	53	53	-	-	-	63	63
Nutrit 3100	1	23	24	68	58	63	63	63	100	100	100	87	87
Textiles 3101	0	3	3	-	-	-	48	48	-	-	-	67	67
French 3200	0	62	62	-	-	-	44	44	-	-	-	29	29
Electn 3104	0	2	2	-	-	-	43	43	-	-	-	0	0
Stats 3104	0	2	2	-	-	-	43	43	-	-	-	42	42
Adv Math 3201	0	40	40	-	-	-	54	54	-	-	-	70	70
Bus Math 3202	0	62	62	-	-	-	40	40	-	-	-	21	21
Acd Math 3203	1	490	491	58	77	68	53	53	100	100	100	60	60
Mus Th 3100	1	1	2	80	73	77	95	86	100	100	100	100	100
Mus His 3101	0	1	1	-	-	-	44	44	-	-	-	0	0
West Rel 3100	0	29	29		-	-	-39	39	-	-	-	31	31
New Tes 3109	1	45	46	35	22	39	30	30	0	0	0	9	9
Biology 3201	1	291	292	62	62	62	46	46	100	100	100	39	39
Chem 3202	0	86	86	-	-	-	49	49	-	-	-	50	50
Geology 3203	0	59	59	-	-	-	50	50	-	-	-	59	59
Physics 3204	0	130	130	-	-	-	45	45	-	-	-	38	38
Env Sc 3205	1	41	42	53	79	66	45	45	100	100	100	37	37
Wor His 3201	0	132	132	-	-	-	44	44	-	-	-	35	35
Wor Geog 3202	6	274	280	66	52	60	40	40	100	67	67	24	24
Wor Prob 3204	2	73	75	38	44	41	47	47	0	50	0	41	41

TABLE VI
JUNE AND NOVEMBER 1989 REREAD RESULTS

Courses	Frequency of Mark Changes							Total Rereads
	0	1	2	3	4	5	>5	
Art/Des 3200	1		1					2
Art His 3202	1							1
Language 3101	107				8	2	11	128
Bus Eng 3102	5			1	2			8
Adv Wri 3103	1		1			1	1	4
Lit Her 3202	40		2	2	1		20	65
Th Lit 3201	203				7	9	18	237
Folk Lit 3203	4							4
Nutrit 3100	4	1	1					6
French 3200	29	3						32
French 3201	2					3	1	6
Adv Math 3201	65	6	2	1			1	75
Bus Math 3202	6	3	5					14
Acd Math 3203	95	11	3	1				110
Stats 3104		2	1	1				4
Mus Th 3100					1			1
West Rel 3100	4	3	3					10
Wor Rel 3101			1					1
Gospels 3105	1	1						2
New Test 3109	15	4	4		1			24
Biology 3201	62	12	1		1			76
Chemistry 3202	30	8	3	1		1		43
Geology 3203	12	5	5		1			23
Physics 3204	34	11	4	1	1	1		52
Env Sc 3205	2		1	1	1	1		6
Wor His 3201	21	6	7	6	4	3	10	57
Wor Geog 3202	39	3	3	1	1	1	2	50
Wor Prob 3204	11	7	5	6	2	2	6	39
TOTALS	794	86	53	22	31	24	70	1080*

* 1022 and 58 were the totals for June and November respectively.

SECTION II

CHIEF MARKERS' REPORTS

MARKING BOARD ADMINISTRATOR

Mr. Calvert Randell, B.A., B.A. (Ed.)
Teacher
Cowan Heights Elementary School
St. John's, Newfoundland

ART AND DESIGN 3200

Marker: Valerie Tubman

A. PRE-MARKING APPRAISAL

Exam clearly stated. Layout on some questions poor. Question #3 - all five parts should be on one page. #4 (d) - answer both A and D. Plate #27, #5 - artist's name appears on plate; style not included in course.

B. POST-MARKING REPORT

Organization and Procedure

Only one person marked all questions, ten questions each paper.

Marking Standard and Consistency

Marked thirty papers per day. Corrected from #1 to #18 doing one question on all 30 papers. Followed answer key using discretion on #3, 6, 7, 8, 9, 10(b), 11(b), 12(b), 13(b), 15, 16(b), 17, and 18.

Commentary on Responses

Definitions - wash drawing not fully understood by students; motif continually confused with pottery term and subjective colour continually referred to as realistic colour.

Students need more work with visuals in #1 and #5. Weak areas of paper. Students need more large visuals of items to relate statements to .

Media section done well with large variation in answer to #7 but still acceptable answers. Students did #8 on videos quite well and related visual elements with good examples. In #9, they referred to bulletin board as a poster. Felt they didn't read the question completely. The principles of the bulletin board an poster are related in many ways, so marked them as same.

Optional units in Ceramics and Pottery, Photography, Crafts and Craftspeople, and Newfoundland Art and Artists were the main areas completed with Applied Design and Environmental Arts a close second. Units done well with a lot of details and factual information.

Recommendations

Suggest that #6 be replaced with another section. Use this area as an essay section that students write about a piece of art work they themselves completed in a year. Students could even have a photo to attach. Write about its conception to completion. Have them discuss the materials and/or design elements they considered. This area not very well done. Plus, posed problems of interpretation from students who have had different experiences with visuals. A small picture in book lacks most of the qualities a student is trying to relate. Better to have students relate to an actual piece they themselves created.

ART HISTORY 3202

Marker: Valerie Tubman

A. PRE-MARKING APPRAISAL

Length good. Many areas open ended, allowing for individual interpretation. Good variety of information covered; styles, definitions, etc.

B. POST-MARKING REPORT

Organization and Procedure

Corrected all question, starting at #9(c) and working backwards one question at a time.

Marking Standard and Consistency

Checker went back over to make sure all questions were answered. Checked addition and adjusted as required.

Commentary on Responses

Plate number 25 used in #5(1); most students referred to Goya as being a Romantic, not Social or Realistic Artist. Item 3(i) called it carving, not subtractive, on most papers. Item #3(j) referred to it as Mobile Art rather than Kinetic Art.

Recommendations

All pictures on plates booklet should be reproduced in colour, not just the last four.

Should leave one and a half spaces between the ending of #1 and the opening statement of #2.

Increase the #3 section to 15 or 20 because of the amount of work covered by book. Vocabulary is very important to the history of art. #4 should also be increased for this reason as well.

Section B should have a section where students list artists of periods, and other major events that took place in certain other areas for example, poetry, literature. Students should be made aware of events.

LANGUAGE 3101

Chief Marker: Victor Boyd

A. PRE-MARKING APPRAISAL

The exam was considered to be reasonable in length and degree of difficulty. The selection and the essay topics were interesting and appropriate. Having only four questions in Part A made the exam easier to mark. This should be followed in the future; if necessary, choice may be given within the questions.

B. POST-MARKING REPORT

Organization and Procedure

Three markers were assigned to each of items 1, 2, and 3; four markers were assigned to item 4. This arrangement worked well, giving each marker a consistent workload. **Narration** had seven markers, **Exposition** six, and **Description** five. The group standard was maintained by frequent discussion and sharing of essays. Members in each group changed seating position frequently within the group to maintain contact with the whole group and to keep one standard.

Marking Standard and Consistency

There were three methods used to maintain marker consistency: (a) fifty or more papers were read on the first day, recorded on separate paper, and were reread during the first three or four days and all differences discussed; (b) each day the chief reader read three papers, recorded the results on separate paper, and discussed each after it had been marked by the group; (c) all papers showing a difference of five or more in the value of the two essays, were reread by the chief reader (with help from selected markers when needed). As a result of this check, several hundred papers were reviewed and discussed with the appropriate markers, and changes made where necessary.

Commentary on Responses

Item #1 - For part (b), many students chose metaphors other than the most significant one - the "wave" metaphor.

Item #2 - Many students do not understand the procedure for identifying characteristics and using supporting material, i.e., name the characteristics, make general comment, quote supporting example from passage, and make brief summary. Part (c) was difficult for many students. Instead of suggesting interest, impact, emphasis, etc., many students merely interpreted the passage.

Item #3(a) - Markers expected answers such as more emphatic, transitional sentence between paragraphs one and three, catches our attention because it stands alone, etc. Part (b) - many students could not discuss the effectiveness of parallel structure - many explained the meaning of the example instead. Markers expected comments such as equal emphasis to all parts of the structure, sentence variety, coherence and unity, economy of thought, fluency and rhythmic effect.

Item #4 - Meanings of the words and phrases were well done by most students, however, students were unable to say why they were examples of effective diction. This question would have been improved if divided into two parts since the majority of students did not attempt to answer the latter part perhaps because they overlooked this part.

Item #6 - **Exposition** - With the exception of "A True Friend", the topics were challenging. Weaker students generally chose "A True Friend" and their essays were filled with clichés.

Item #7 - **Narration** - Overall the essays were poorly developed and most lacked imagination and creativity. Technical errors abounded in many essays. Students also neglected to paragraph dialogue properly.

Item #8 - **Description** - Far too many students continue to write pure **Narrative** for topics like "In the Meadow", or "Monday Morning". Many of the essays contained serious punctuation and spelling errors. Some essays were far too long, and could have been greatly improved by revising and editing.

Recommendations

1. Increase the required number of words for the essays from 250-300 to 350-400. This would more realistically reflect what teachers expect and what the average student has been doing.
2. Far too many students do exams in pencil. Have supervisors **read** the rules.
3. Students shouldn't underline, label , colour-code, etc., the use of technical structures in their essays
4. Students should identify their essay topics clearly.
5. Essays must be original. Essays that reflect "borrowed" plots from school texts, novels, movies or TV should be heavily penalized
6. Improper or indecent language in essays should be penalized.

BUSINESS ENGLISH 3102

Chief Marker: Allan Decker

A. PRE-MARKER APPRAISAL

Question #1 (a) - Perhaps an indication of the number of errors contained in this part, e.g., ten mistakes with one mark each, or twenty mistakes worth one-half mark each.

Question #1 (b)	- Words should have been more representative of everyday usage.
Question #2	- Values seemed to be too high for the calibre of questions stated in the exam.
Question #3	- Words "preparing" and "in" used in the same set of directions are confusing.
Question #4	- The format should have been stated for both parts or neither part.
Question #5	- The style used for the article in this question (precis) is foreign to students of Business English. Sentences are long and cumbersome.

B. POST-MARKING REPORT

Organization and Procedure

Six markers on the panel. One marker per question with two sharing one question, plus sharing the adding-up process at the end table.

Marking Standard and Consistency

Forty-five papers were selected and marked the first day. These represented three papers per day spread over fifteen days. Also, these forty-five papers were selected randomly from all the papers to be marked.

Commentary on Responses

Since Business English 3102 is generally geared to lower lever (i.e., Basic) English students, the directions given for each question should be brief and straightforward; avoid long preambles. Take, for example, #4 (g) on June exam - this question has six lines of instructions, and in most cases students didn't do the last part: "Draw and address a suitable envelope". This question would have been more direct if the directions were more simply stated: (i) Write a letter .... and (ii) Draw and address an envelope.

Any question that has to do with correcting errors in grammar and usage should have either (i) the number of errors indicated or (ii) the passage put into context rather than separate sentences.

Question 1(b) - The choice of words in this item was considered too difficult for the level of students doing the course.

Question 2(b) - Either/or seemed to be unequally weighted because the "either" section required only two concise definitions while the "or" section required two complicated examples in addition to more involved definitions.

Generally, students did consistently with previous years, except for questions with long preambles.

Recommendations

- Use simpler directions.

- Put errors in usage and grammar in a passage like a memo or a letter. Also, indicate the number of errors.

- Use questions with case studies followed by a series of simple, more direct questions.

ADVANCED WRITING 3103

Chief Marker: Allan Decker

A. PRE-MARKING APPRAISAL

The exam was consistent with the exams of previous years. However, it was felt that the weight of 40% allocated to the writing portion of the exam was a bit heavy in relations to the students' portfolios which was also worth 40%, but students had all year to work on them.

B. POST-MARKING REPORT

Organization and Procedure

There were two markers (with assistance of Chief marker).

Portfolios: one marker read the Drama section.
One marker read the Short Story section.
Both read the Poetry section.

Marking Standard and Consistency

During the first day, both markers read entire exams and average their marks to form a pattern of consistency. If, on occasion, there was a wide discrepancy between their marks, the paper was read again by both markers and by the chief marker.

Commentary on Responses

#1(a) Students generally did well. More specific examples should be provided.

#1(b) Students did fairly well. This was a question based on interpretation, and those who understood the question and interpreted the poem correctly generally got full marks.

#1(c) Generally, students did provide the examples of repetition, but they were a little weak when it came to discussing the appropriateness of the examples. They didn't see that generally the images were linked in their comparisons to the scene being described.

#1(d) This question was answered well.

#2. The writing was fairly good. Some of the poetry was difficult to evaluate fairly because the poems were very brief. We suggest that a length be specified for the poetry. With regard to the prose, students often related and incident or a scene without revealing character traits and personality. Question (c) was not often answered, but where it was done, it was done well.

Recommendations

The question on poetry is too open-ended. A length should be specified.

Also, the value assigned is questionable. Students are awarded 40% for less than two hours of writing - their portfolios are only worth 40%, yet it represents ten months of writing.

- Give the portfolios more value
- Do away with the exam entirely.

THEMATIC LITERATURE 3201

Chief Marker: Kevin Coady

A. PRE-MARKING APPRAISAL

It was agreed that the exam was a fair one. Both selections on Section A were fair and students should have been able to handle them better than in the past years. Though the selections were easier than in the past, they were challenging and forced the student to show some insight into the theme in each. Questions on irony, symbol, and satire were certainly fair to all students who have reached this level of literature. However, there was a concern with questions 3 (b) and 3 (c) since these did not require any reflection on the thematic study and thus, were so open-ended that they caused difficulty for the markers. It seemed that students could say almost anything and it would have merit. Markers spent time focusing on these. The sections on the novels and plays were very predictable and thus fair. Students had good choice and they should not have been surprised with anything in these sections.

For the most part the exam was seen in a positive light. The students are finally being given time to show their skills.

B. POST-MARKING REPORT

Organization and Procedure

The board for Thematic Literature 3201 consisted of one panel of thirty-four markers. All items, except 2(b) and 2(c), had more than one marker assigned to them. The markers worked together to formulate an acceptable answer key to their portion of the exam. Ideas were constantly shared, and team work was applied so that on-going discussion took place as papers were exchanged for a second and third opinion. A fair reading was given to each paper.

Marking Standard and Consistency

The consistency on the board was very high. The main factor for this was the high calibre of markers on this year's panel. The 34 markers were very keen on maintaining consistency and took great pride in doing consistent work. At least 5 papers were sent through daily as consistency checks. These papers were later sent through and a comparison was made. This led to discussions which further enhanced the consistency of the panel. In addition to this, comparisons were made between papers and/or questions. All of this indicated that consistency was well under control on this marking board.

Commentary on Responses

Item #1 - Students did well on this item. Many found the selections easy to read and easy to "feed-back" to the markers. This created a problem in that many students wrote far too much and wasted their precious time.

Item #2 - In 2(a), (b), and (c), students were often vague in their explantation of how the irony, symbols, or satire applied to the work. They gave a definition (not always a quality one), and gave examples, but then seemed to stumble when they were asked to apply the definition to the work. Many students chose 2(d) and had success because it was an easier question.

Item #3 - Students did not do as well on this item as they should have. Many showed a lack of quality written expression. They do not seem to be able to organize their thoughts or to show some personal insights into the theme in question. Work is needed in this area.

Item #4 - 7 - While the questions here were fair and predictable, it was felt that more specific direction is needed for each question. It seems the students need to be told how many examples to use, how many references to make, how many characteristics to give, etc. The students seem to know the material, but they cannot organize their answers. Maybe the question can be less wordy and more to the point so that it tells the student exactly what to do.

Recommendations

In item #1, the students need to be told to give the literal meaning in 100 words or less, or some such direction. They must not be allowed to write pages on literal meaning. A limit needs to be set.

The organization of item #2 should be such that there are not three sections to 2(a) or 2(b) for a total of 10 marks for (a) and (b). The students can be asked to give 2 examples and show how each is effective, and thus eliminate one section. This should help the student and the marker as well.

LITERARY HERITAGE 3202

Chief Marker: Edward Mullins

A. PRE-MARKING APPRAISAL

The majority of markers felt that this was a very good paper; in fact, one of the best in years. It offered students a fair choice of what to answer. As well, the unseen selection was a well-thought out choice. Students should be able to deal very well with this.

B. POST-MARKING REPORT

Organization and Procedure

#1 and 2	- One marker
#3 and 4	- One marker
#5	- Two markers
#6	- One marker
#7 and 8	- One marker
#9 and 10	- Two markers

Marking Standard and Consistency

Fifty papers were run through on the first day. No marks were placed on these papers. Each day, three of these papers were put through again. In only a few cases were there andy discrepancies, and these were taken care of very easily.

Commentary on Responses

The general consensus was that the exam was well constructed and straightforward with regard to the responses required from students. We were especially pleased with the fact that the questions were designed to test what students **did** know rather than what they **didn't!** The choices given were very diversified in nature and provided ample opportunity for students to use a wide range of material form the text as well as the novels and plays.

Without going into an item-by-item analysis, there are a few points we felt should be mentioned with regard to item clarity and student responses:

1. A large number of students fell into the trap of interpreting "Advice to Youth" much too literally. They failed to adequately perceive the satire.
2. Students, when asked to choose elements of comedy in questions #2, tended to choose elements which were very similar in meaning. This provided difficulty in the choice of examples to support the elements chosen.
3. Questions should have specified the **minimum** number of selections required in the student response.
4. Some questions, such as 5(a) and 10(b), were very similar.
5. Some questions, such as 7(c), posed a problem in that it was extremely difficult to select appropriate selections to accompany answers.
6. Students were required to include at least one detailed reference to a novel and one detailed reference to a play. It is, however, not specified on the paper what the penalty

will be for non-compliance with this direction. Each year, the penalty is decided by the individuals who comprise the panel. For the sake of consistency, firm policy should be developed in this regard and should be communicated to the students through the directions given on the examination paper.

Recommendations

We have included our recommendations for improving the exam paper itself in our comments with regard to "Commentary on Responses".

The system of setting and marking this examination seems quite fair and well-developed.

FOLK LITERATURE 3203

Chief Marker: Edward Mullins

A. PRE-MARKING APPRAISAL

Preliminary discussions centred on analysis of test items for clarity; no problems were identified in this area. Examination of item values resulted in clarification of mark breakdown per item. Item difficulty analysis revealed no significant aberrations. For marking purposes, each marker was assigned items on the basis of odd and even numbered questions.

B. POST-MARKING REPORT

Organization and Procedure

The exam consisted of fourteen items. Markers divided the correction duties along the lines of odd and even numbered items. One marker marked items 1, 3, 5, 7, 9, 11, and 13; the second marker marked the remaining items.

Marking Standard and Consistency

A sample of papers was corrected on the first day of marking. Reference to these papers throughout the marking process insured standards and consistency in marking. From time to time markers consulted each other in interpreting more questionable answers.

Commentary on Responses

All items on the exam were felt to be fair and illustrative of the course objectives. However, in some cases, many students had difficulty with the fieldwork section. A significant number indicated they had not done a fieldwork project during the year. Others referred to fieldwork during the year which did not involve the collecting of folk literature items - seal fishery, educational system, etc. While the process was used, we wonder about the value of such activity for the student's understanding and appreciation of folk literature.

Many students misinterpreted the requirement of item (b). Instead of using recitations and monologues to compare folk and written literature, many compared recitations and monologues to each other.

The Lyric Folksong and Ballad Folksong analysis items also appeared to present difficulties for many students. The inability to analyze songs was very obvious and possibly reflects the general lower ability levels of most course participants.

Recommendations

Withdraw the song analysis items of the Folk Song section.

NUTRITION 3100

Chief Marker: Carol Nesbit

A. PRE-MARKING APPRAISAL

The length of the exam paper was satisfactory, but it was felt by the marking panel that the exam did not fairly represent the course content.

The markers had some criticisms during the pre-marking appraisal.

In Part I, Section A, item #7 and item 315 asked for the same information. One mark was allotted for each question. Item #14 is a rather obscure question, but because it is included in Nutriscore, page 110, it was accepted. In Part I, Section B, item #39 is poorly worded. It implies that the vitamin is to be increased as a supplement when in actual fact the vitamin is automatically increased when the amount of carbobydrate is increased. Completion questions should be stated such that there can be only one possible correct answer.

In Part II, several of the questions were vague as to the desired response. Example, question #1(b), (i) and (ii) required a similar response. In addition, item (ii) did not indicate whether a daily menu plan or a single meal menu plan was required. According to the answer key, the response required a list of suggestions, not a menu plan.

The mark distribution did not represent the amount of information required or the degree of difficulty of the questions in all cases. Example, question #3 valued at ten marks required much less information in comparison to the other questions in that section. Since all questions in Section A, with the exception of question #3, have multiple parts, and since Section A required the students to complete three of four questions, it was impossible to alter the value of question #3. Also, in reference to question #3, there is one short paragraph on this topic in **Nutriscore**, page 136, which lists three reasons. The question asks for five.

Question #5(c) was considered an important issue, but again it was felt that the value was too high considering the amount of information included in the course references.

Question #6(e) is not included in the course description, although it is referenced in **World Prospects**, 2nd edition.

Question #7 required a very low level response for the high value of the question. For six marks, students were asked to list six barriers to proper food distribution, and for another six marks they were asked to list six agencies that are attempting to address global food problems. Explanations should have been required.

The majority of questions on the exam ask for recall rather than organization of ideas, application or analysis.

B. POST-MARKING REPORT

Organization and Procedure

The board was organized as a single panel with each marker assigned a question(s). The paper was discussed by the panel of six markers and adjustments were made to the answer key. Questions were assigned based on length of answers and frequency with which they appeared on the paper.

Marking Standard and Consistency

All markers agreed on the marking standard for each question. Each item was marked by the same marker. A selection of papers were chosen, marked and recorded on a separate sheet of paper. The papers were then replaced in their proper order with the other examination papers. A satisfactory level of consistency was maintained when these papers were marked again.

A checker checked each paper for errors in tabulation, addition, omissions, etc.

Commentary on Responses

Overall, the questions were poorly answered. Many answers were brief with no elaboration or explanations - e.g., questions #3, #6, and #7. Question #7(a) should have asked for major agencies attempting to address global food problems. Students' answers included many groups that contribute in a very minor way.

Students had difficulty understanding what was expected for the answer to question #1(b), (i) and (ii). Consequently it was poorly answered. Students did not know the number of improvements required for a complete answer. Most rewrote the menu. Part (ii) of question #1 was difficult to mark. The question did not indicate whether a full day's menu plan of a single meal menu plan was required. Students were given credit for either, but many ignored the fact that the question asked for a menu from a fast food restaurant.

Question #2(d) and (e) presented difficulty for many students. The term "complementary protein" was not understood. Part (e) should have asked for a complementary food combination since many students named only one food (e.g., nuts) in the answer.

Many students partially completed or completely omitted Section C. Of those who did the question, many misread it; i.e., students gave a job description when the question asked for education requirements.

Recommendations

More care must be taken in wording the questions, and questions should specify precisely what constitutes a complete answer.

The value of the questions should reflect the emphasis placed on each section of the course.

The exam should combine a balance of knowledge, comprehension, application, analysis, synthesis, and evaluation type questions.

TEXTILES 3101

Chief Marker: Carol Nesbit

A. PRE-MARKING APPRAISAL

The exam was considered a good exam. It appeared to be fair and reasonable. Most items were precisely stated. One item, #6(a), however, was vaguely worded. It asked for one reason for a particular combination of fibres. The question should have asked for one reason based on performance characteristics for **each** of the fibres used in the combination. Item #6(b) might have required the student to explain "the qualities of performance" stated in the answer. Also, in Section C, there was some duplication noted. Item #6 and #7 were very similar.

B. POST-MARKING REPORT

Organization and Procedure

The board was organized such that no one question was marked by more than one marker. The answer key was discussed, and required changes or additions made. Questions were discussed, and a consensus was arrived at as to how they should be graded.

Marking Standard and Consistency

A definite marking scheme was adopted for each question to ensure consistency of marking. Each item was marked by the same marker. A number of exams were selected and circulated with marks recorded on sheets of paper. These exams were then corrected in their regular order and marks compared with the original marks. A satisfactory level of consistency was maintained. A checker checked each paper for errors in tabulation, addition, omissions, etc.

Commentary on Responses

Generally, the exam was easy and students did well. This was evident from the results.

Students who answered both item #6 and item #7 may have had an advantage since the questions were very similar. Answers for items #9(b) and (c) also tended to be repetitive.

Recommendations

Ensure that the questions are stated clearly.

A panel of at least three teachers from one area of the province compile future exams.

FRENCH 3200

Chief Marker: John J. Ennis

POST- MARKING REPORT

All markers helped mark the listening section. items #1 - 5, items #6 (Dichee) and #14 (Composition) each had two markers while the remaining items were distributed among the other markers.

Marking Standard and Consistency

The only item which requires a consistency check really is item #14 (Composition). The two markers regularly conferred with each other and with the chief on this item. Before the paper is marked, there is discussion and agreement re what is expected from the students in items such as #8, re coherency, grammar, etc. Of course, the checker and the chief assure that assigned values and totals are accurate.

Recommendations

Item #9 - Vocabulary. Please list the vocab words in alphabetical order. (Also, ensure that all answers are in the vocab list ... June '89 - for item r, no answer was supplied and in the list of vocab; the word "partout"appeared twice). As well, please ensure that the vocab and the accompanying sentences all appear on **one** page.

Item #10 - Should read ... "by writing an appropriate word **or expression**"

NOTE: Please ensue there is a lined page for students to write item #14, the Composition.

FRENCH 3201

Chief Marker: Corinne Ellsworth

A. POST-MARKING REPORT

Values given for items #2 and #4 were incorrect. Question #2 value was duplicated (indicated twice in separate locations). Question #4 - a value of four marks was placed beside the question number - an incorrect value - and then each separate subsection had the proper values indicated. Also, item #7 had **no** assigned value.

Item #3 contained a typographical error - "Le Bonhomme Carnaval est AN ... " AN should have read UN.

Item #5 (Poem) - Some concern was expressed that the level of vocabulary in general was of a higher level than the students would have normally be exposed to throughout this course, causing concern on the part of the student; e.g., hyperboreen, verdure, s'epancha, altiere, etc.

B. POST-MARKING REPORT

Organization and Procedure

There were three markers:

Marker 1 - #'s 2,3 and 4
Marker 2 - #'s 5 and 6
Marker 3 - #'s 1 and 7

Papers were totalled by Marker 1 and entered on Public Exam Result Computer Sheets by Marker 2.

Marking Standard and Consistency

During the afternoon of the first day, ten papers were corrected and used as a control for consistency. Consistency was very high.

Commentary on Responses

Item #4(e) - The majority of students misinterpreted this question resulting poor quality answers. Students interpreted this question to mean "Is learning a second language important?"

Item #7(d) - Many students who responded to this question were able to draw their ideas and vocabulary form question #2 - quoting verbatim in many instances.

Recommendations

More spaces should be provided for opinion questions in all sections. We recommend that item #4 (passage) - both sections (d) and (e) - contain seven ruled lines as answer space; item #5 (poem) - sections (d) and (e) - contain nine lines; item #6 (themes) - contain **no less** than ten ruled lines; and item #7 (composition) be extended to thirty lines or the the bottom of the page.

We also recommend assigning one of the three markers as Chief Marker.

STATISTICS 3104

Chief Marker: Albert E. Loveless

A. PRE-MARKING APPRAISAL

Overall, a good exam. Exam was of reasonable length. Course content was covered well, except for Skewness. All questions were fair except objectives using textbook definitions which were felt to be ambiguous . In Part II, #4(d) OR - Cubes and balls were used interchangeably which could cause problems.

B. POST-MARKING REPORT

Organization and Procedure

The board consisted of five members with each member assigned a portion of the paper. The paper was discussed by the entire board, agreement was reached on how marks should be allotted and the marking key was revised. Objective papers were marked first then Part II was completed.

Marking Standard and Consistency

Before the marking of the exam began, forty papers were chosen randomly. These papers were marked and the grade recorded on a separate sheet, then they were placed in their proper order with other examination papers. When these papers were marked again, a satisfactory level of consistency was maintained. The chief reader also did random checks on other exams as time permitted throughout the marking period.

Commentary on Responses

Objective #3	- Many students did not subtract the smallest from the largest but vice versa.
Objective #32	- Most students selected (A), i.e., 1/4 x 1/4 . 1/4 = 1/64. The correct answer was C, i.e. (1 x 1/4 x 1/4 = 1/10)
Question #1	- Well done. The only problem was the fact that the frequency polygon joining the midpoints of the hestogram bars, did not begin and end at the axis.
Question #2	- Common errors included not finding midpoint of internal, mistakes in addition and not finding square root when finding the standard deviation.
Question #4(a)	- Some students had problems with the formula, i.e., they switched the mean and ran score. Some failed to look up the Z-score in the table.
Question #4(b)	- many students were confused between a tree diagram (which can be used to arrive at a sample space) and the sample space listing.
Question #5	- There were a few papers in which the graph paper could not be found, and it appeared obvious that students could do the graph from the other work that was done.
Question #6(c)	- Students could not distinguish between permutations and combinations. Many did not know the multiplication principal of combinations. In (d), many students assumed (wrongly) that the numbers were three digit.
Question #7(c)	- Many students only calculated the area of one circle instead of four circles.
Question #8	- Only attempted by a few students.

Recommendations

That setting the exam be done immediately following marking board by a panel of three people. This would help to correct some errors that could occur otherwise.

Having the total exam and answers in booklet form similar to math 3202. Since several pieces of graph paper were lost on the exam, this could be corrected by the graph paper being placed in the booklet.

BUSINESS MATHEMATICS 3202

Chief Marker: Albert E. Loveless

A. PRE-MARKING APPRAISAL

Good exam. Content covered well. Exam was of reasonable length. All questions were considered fair, except for #42(b) - it was felt that "Increments of 50" was going to confuse students.

B. POST-MARKING REPORT

Organization and Procedure

All seven members were organized as a single panel with each marker correcting a portion of each paper. The first day, a key was revised and after considerable discussion by all members a marking scheme was devised. Sections A and B (objectives) were marked first. Then, Section C was completed.

Marking Standard and Consistency

Before the marking began, forty papers were chosen randomly. These papers were marked and the grade recorded on a separate sheet. They were then replaced in the proper order with other examination papers. When these papers were marked again, a satisfactory level of consistency was maintained. The chief reader did other random checks on other exams as time permitted throughout the marking period.

Commentary on Responses

Objective #12	- Because of the way it was worded, both (c) and (d) were accepted as correct responses.
#23	- Many students forgot to divide 2845 kg by 100 before multiplying.
#26	- Most students failed to add interest ($2062.50) to $60,000.00.
Question #42(a)	- Very poorly done. Many students did not compute interest correctly.
#42(b)	- Many students erred in calculation delivery cost.
#43(a)	- Very poorly done. Many did not attempt either part. Many students confused accumulated depreciation and book value.
#44(b) (iv)	- Most students included employee hours in total parts used.
#44(c)	- Most students failed to round to the nearest tenth of a percent.
#45(a)	- Students did not understand the meaning of "4/14 net 30". Many students found 4% or 14% or both instead of just 4% of the total.

Recommendations

Set total exam in booklet as it makes it very convenient for marking. It is strongly suggested that this format continue.

ACADEMIC MATHEMATICS 3203

Chief Marker: C. Lockyer

A. PRE-MARKING APPRAISAL

A good exam. Part I - Incorrect wording. Should read "to complete the square". Marker accepted 25/2 or 25/4 as correct answer.

B. POST-MARKING REPORT

Organization and Procedure

Seventeen readers were assigned to this board. Readers worked through the exam paper and did a pre-marking appraisal. Keys were discussed and a marking scheme was set up. Each reader was assigned part(s) of questions so that each person would have approximately an equal amount to mark.

Marking Standard and Consistency

Twenty-five papers were selected at random and readers did trial runs. When these papers were marked, readers checked for consistency.

Chief reader did random rereads throughout the marking session and if any inconsistency arose it was brought to the attention of the individual reader concerned.

Checkers inspected every book and any discrepancies were reported to the reader who made the required correction.

Commentary on Responses

#1(a) - Students have a poor knowledge of logs.

(b) - Students have difficulty with working with negative exponents.

#3(a) - Many students did not know the quadratic formula.

(b) - Confused perimeter with area. Many students used 60 - x for the length instead of $\frac{60 - 2x}{2} - 30 - x$

(c) - Most students could write the equation but many could not solve it.

#5(a) - It seems students have difficulty with standard form of the circle and completing the square.

(b) - Common mistake was solving for and making mistake in sign ( ).

#6(a) - Students used wrong trig function, i.e., sin or cos instead of tan.

(b) - Most students were able to find the first angle 15 but many could not get 195°.

(c) - Students failed to realize that the √5 was negative.

(d) - Some students do not know the Cosine Law.

(f) - Students should learn to work within the correct interval.

Recommendations

1. Exam be constructed by a panel (committee) rather than the method used this year.
2. Consideration should be given to having the exam completed on the examination paper as is done in Math 3202.
3. Somebody **must** take the final product (exam) regardless of how it is constructed and scrutinize it for:
    - (i) typing errors
    - (ii) readability and clarity
    - (iii) allocation of mark
4. When a choice id given within a question, each must be of equal difficulty.
5. If suggestion #3 is not considered, then have graph paper as part of booklet.

MUSIC THEORY 3100

Chief Reader: John Bonia

A. PRE-MARKING APPRAISAL

Several things were drawn to the attention of the board prior to marking. They were: (1) Length of the exam, (2) Item #13(b) (v) was not part of the program of studies; and (3) Item #15(a) contained a bass line without the appropriate figures to indicate their inversion. This is also inconsistent with the text.

Markers also noted that some confusion might take place in question #11(ii) where transposition was required for Eb Alto horn. A review of the text failed to provide an example of that particular question. It asks for (1) Eb Alto Sax or (2) Horn in Eb. **NEVER** for Eb Alto Horn.

The taped portion of the examination was reasonable in difficulty but lasted approximately 45-50 minutes. This would allow just one hour and ten minutes for the rest of the paper. A review of the second part (written) led markers to conclude that an average college graduate would take about 1 hour and 25 minutes (at least) to finish the remainder. To expect a grade 12 student to fare better is a least ridiculous. The responses required in this sort of paper are by their very nature precise and a great deal of care is necessary. Students would have had to either (1) Rush - This would reduce accuracy to allow for speed; or (2) Slowly and carefully answer as many questions as time would allow. resulting in incomplete papers.

A quick glance through the responses pointed out that students did in fact do as we suggested. There were lots of questions left undone.

Question #7 and 8 were found to be inconsistent with the course outline and as a result were removed. All papers were graded out of 91 marks and the raw score changed to one out of 100.

B. POST-MARKING REPORT

Organization and Procedure

The board consisted of two markers. One half of the papers were assigned to each marker, who then marked Part I. Part II was marked in traditional panel style with particular questions being assigned to each marker.

Marker Standard and Consistency

Several sample papers were selected and jointly graded against a key which was devised partly by the setter and the markers. These papers were set to one side and used as a guide when marking other papers. Due to the objective nature of this examination, very little discussion was necessary.

At the conclusion of marking, several other papers were compared to the standard and their results were satisfactory.

Commentary on Responses

To be honest, this paper was/is a **disaster!** At first, we were confounded simply by the length of the paper, but there are more problems.

(1) **Section A, #7 and 8.** The skills tested in this portion of the examination are simply not taught in the course. A review of the course description avoids reference to complex Chord rotation and recognition. Fully 9% of this exam should **not** have been present.

(2) The responses to the remainder of the exam support our pre-marking appraisal. There are too many items on the paper. Students who clearly showed an ability to transpose item #11(a) and 11(b) often left out item 11(c). I would suggest that time was a factor.

(3) The Instrument named in #11(c) is not to be found in the text for this course. Eb Alto Horn is not an orchestral instrument. Alto Sax in Eb, Horn in Eb are the terms used. For a student struggling with transposition, this could easily confuse.

(4) As one nears the end of the examination, there are more and more omissions. Students simply did not finish the paper.

Recommendations

The paper must be set to meet the descriptions found in the **required** text, not as the setter would like them. The paper must fit the time lines based on the **average** student. Terms, phrases and definitions must be those contained in the course materials provided. Items should be tested only once. More choice ought to be present.

Based on the results of this paper, I would recommend raising the scores of all students at least 8%, perhaps as high as 10%.

MUSIC HISTORY 3101

Chief Marker: John Bonia

A. PRE-MARKING APPRAISAL

The examination appears to deal quite well with the content of the course. Students are given the opportunity to demonstrate their listening skills and memory, their ability to remember specific facts as well as comment on more general topics.

I would expect that most students finished this exam well within the prescribed time, while others would, if their information base allowed, have written quite a lot. Given that this is a one credit course, I find this examination to be more than adequate in testing the knowledge of the students enrolled in this course.

B. POST-MARKING REPORT

Organization and Procedure

There were two markers on the board. Initially, a key was devised for the objective portion of the exam. These objectives were then marked with one half the papers going to each marker.

A key was then devised for the written portion. All marking then tool place in a "panel" fashion, with each marker accepting responsibility for particular questions on each page.

Marking Standard and Consistency

Several sample papers were selected and graded based on the key provided. From time to time, markers would compare the results to the key so as to ensure consistency.

Commentary on Responses

This examination, in terms of its content, is more than satisfactory for evaluating the course.

Objectives were clearly stated as were the long answer, essay style questions.

Many of the responses to Section C and D required more space than was provided in the answer paper. Well prepared students could easily write much more than could fit into the lined portion of the examination booklet. Several students, in fact, added a foolscap booklet. Several students, in fact, added a foolscap booklet to the paper in which they wrote additional information.

Recommendations

A slightly different format for future examination:

Part I - Listening and Objectives
Part II - Essay style questions

Part I should be separate from Part II and should be answered on the paper which contains the questions and blanks for the correct answer.

Part II should be printed on a separate page which contains only the questions, and students should respond on a foolscap examination booklet. This would not restrict students as they attempted to answer the longer questions.

CHORAL PERFORMANCE 3103

Chief Marker: John Bonia

A. PRE-MARKING APPRAISAL

The paper did not appear to have any major difficulties. The listening segment was well presented and of reasonable length.

All written response questions were well within the guidelines for Choral 3103 and should have presented no problems for an average student.

I wonder about the usage of 1/2 marks in question 7(a) and (b). In the totalling process, all marks will have to be rounded up, thereby given the student with 1 out of 2 the same result as the student with 2 out of 2. Unless there were many more 1/2 mark items, I would discourage this practice. Perhaps, give students a choice of one or the other, rather than have them attempt both for just 1/2 mark each.

B. POST-MARKING REPORT

Organization and Procedure

The Board consisted of two markers. Each marker graded the entire first portion (objectives) of one half of the papers. Papers were then panel marked with each marker assuming responsibility for particular questions on each paper.

Marking Standard and Consistency

Several sample papers were selected and graded against the key. These papers were set to one side and used as a standard against which all other papers were graded. When there was a question that required special attention, both markers discussed the response and arrived at a reasonable grade, based on the previously set standard.

Commentary on Responses

Both parts of the examination were handled well by the students. No major difficulties were apparent in the student responses.

INSTRUMENTAL PERFORMANCE 3104

Chief Marker: John Bonia

A. PRE-MARKING APPRAISAL

Markers analyzed the paper prior to marking and found it to be of adequate length and difficulty.

The taped portion was of reasonable quality on the tape provided and was of a suitable length for a one-credit, performance oriented course.

The written portion, which had two parts, allowed students some choice. This gave allowance for the fact that in the absence of a text, students will need to be able to respond to historical questions based on their degree of readiness. Some teachers may have focused more on one area than another, and the choices in Section "C" allowed for that.

Item 5(d) had been worded in such a way as to enable students to answer with responses **B** or **D** and as a result both were accepted.

It should also be pointed out that item 2(b) in the listening portion was printed incorrectly in the answer paper. The 4th beat of measure (a) should be an **F**. Both the tape and the key provided have **F** as the correct note (typo). This was not considered serious.

B. POST-MARKING REPORT

Organization and Procedure

The board consisted of two markers. Markers alternated between the objective and written responses on a given paper. Papers were essentially panel marked in this manner.

Marking Standard and Consistency

Several sample papers were selected at random and compared to the standard as set in the answer key. Markers discussed the extent to which the student responses met the standard and agreed on a marking scheme.

Through individual reference to this standard, and discussion of particular responses, consistency was achieved.

Occasionally, a completed paper would be reviewed for its accuracy as far as marking was concerned. This enabled markers to maintain a consistent measure of a student answer to the previously set standard.

Commentary on Responses

The listening portion of the examination was handled well by most students. The major areas of weakness remain the **Meter Identification** (Item 1) and in **Interval Identification**. It is fair to say, however, that there has been a noticeable improvement in the listening skills as tested in this examination.

Students did not score well in Item 5, Section B. This section tested specific definition by means of multiple choice. More than half the students scored less than 4/7 in this section. This seems to indicate unfamiliarity with general musical terms outside the area of instrumental performance. Once again, the absence of a standard text makes it difficult to either teach or test general musical knowledge. There are so many terms that could be tested and taught. How can a teacher in an **instrumental** environment adequately prepare?

Item 6 however, was answered very well. The majority of students scored between 8 and 10 out of a possible 10. This was a list of terms commonly found on a sheet of band or orchestra music. The students were familiar with them as a result of their performance classes and naturally were able to identify and define them correctly.

The remainder of the examination was handled well by a large portion of the students. There were no major problems worth mentioning at this time.

Recommendations

If we are to continue to have a **written** examination, a standard text must be provided to every student so as to prepare for that examination.

The specific guidelines as far as musical eras, and rehearsal technique which the Department has provided have worked. Students are better prepared for those items.

There continues to be a problem, however, when questions deal with specific non-performance oriented definitions. Students learn about dynamic markings and the like from their group rehearsals but they still do not learn the general musical definitions which exist outside the performance areas.

A text is necessary!

WESTERN RELIGIONS 3100

Chief Reader: William Drover

A. PRE-MARKING APPRAISAL

Overall, the markers agreed the exam was very good. Length, difficulty and quality was excellent. There were only two concerns:

#7(c)	This question is not particularly well worded. Maybe the question could have asked for "details" about a particular "pillar". This section seemed to be under valued when compared to #7(b).
#11	The wording of this question leaves a great deal of difficulty regarding exactly what is required for a perfect answer.

B. POST-MARKING REPORT

Organization and Procedure

The board consisted of four markers. Each marker was assigned one section of the exam. All markers were responsible for marking the objective section of the exam.

Marking Standard and Consistency

All markers discussed the key and made several adjustments (minor) in marks allocated and acceptable responses.

A number of "check papers" were put through the first day and these were used to gage the consistency. The actual marking proved to be very consistent with the check papers.

Commentary on Responses

Section A	- All questions answered well. Question #2 was the most popular. Question #3 - Students confused (a) and (b).
Section B	- All questions answered fairly well. #4 and 6 were the most popular.
Section C	- All questions answered fairly well. Question #7 was the most popular. Students sometimes confused Judaism and Islam.
Section D	- Questions #10 and 12 were generally well answered. Question #11 was generally very poorly answered.

WORLD RELIGIONS 3101

Chief Marker: Peter King

A. PRE-MARKING APPRAISAL

Part I Objectives	- No problems, with exception of #11 (no correct answer available) and #18 (two correct answers available).
Part II	- Difficulty and length of exam were quite acceptable. No major problems evident.

B. POST-MARKING REPORT

Organization and Procedure

One marker.

For essay type questions, marker completed #1 on all papers before proceeding to #2. Same for #3, etc.

Marking Standard and Consistency

Ten papers were removed and marked as a dry run, then inserted back into the pile. The Chief Marker recorded the examination number and the mark received. When these papers recirculated back again, each was checked to see if either marker had varied his marking standard.

Maximum consistency encountered was 1%. Most variance involved a difference of 1/2% per question, which if extrapolated for the whole paper would be a difference of between 1-3%.

Commentary on Responses

No major problem was evident. Students did equally well on all questions attempted.

GOSPELS 3105

Chief Marker: Peter King

A. PRE-MARKING APPRAISAL

Part I Objectives - More than one possible answer for #'s 28 and 33. Some of the fill-in-the-blanks were such that several answers were acceptable.

Part II - Difficulty appears quite acceptable, although the exam length may prove to be some problem.

B. POST-MARKING REPORT

Organization and Procedure

One marker.

For essay type questions, marker completed #1 on all papers before proceeding to #2. Same for #3, etc. However, due to length of this exam, marker for World Religion 3101 was required to complete the marking.

Marking Standard and Consistency

Ten papers were removed and marked as a dry run, then inserted back into the pile. The Chief Marker recorded the examination number and the mark received. When these papers recirculated back again, each was checked to see if either marker had varied his marking standard.

Maximum inconsistency encountered was 1%. Most variance involved a difference of 1/2% per question, which if extrapolated for the whole paper would be a difference of between 1-3%.

Commentary on Responses

Many students omitted all, or at least part, of Section D. Even those students who attempted Section D, for many, question #8 and 9 were omitted. Either the interpretation of the question posed difficulty, or the material had not been covered in class, or possibly the test was too long. Approximately, 20% either didn't attempt #9 or received zero for their effort. The result was over 50% receiving zero for #8!!!

Also, for question #6, most students were not successful with the second part of part (c) - didn't seem to understand the idea at context.

Recommendations

Questions relating to quotations should have the quotation stated, rather than being too "open" as was the case on this exam with #9.

NEW TESTAMENT 3109

Chief Marker: William Drover

A. PRE-MARKING APPRAISAL

Section A	#1 - No specific problems either with the question or the key
	#2 - No specific problems with question. However, key provides too much detail. Sometimes, not necessary to give preamble in questions such as #2(a).
Section B	#5 - Parts (c) and (d), particularly (d) involves considerably more from text than other three. Students may differ with regard to the meaning of the word "importance" in #6, but this should not present any real difficulty.
Section C and key	- No problems. Good questions.
Section D#10(a)	- Questions and key o.k.
#10(b)	- Question o.k., however, key places too much emphasis on description of Athems which is not relevant to question.
#11(a)	- Question o.k., key to specific.
#12(a)	- To close of a relationship to #11(b).
#12(b)	- Felt that this is a misplaced question; key doesn't answer question asked. Actual compromise not mentioned in key. (Additional information added to key in order to properly correct question.)

B. POST-MARKING REPORT

Organization and Procedure

Consisted of eight markers. Two markers for each section of the exam. This procedure proved to be very efficient.

Marking Standard and Consistency

Twenty-five or thirty papers were put through at the beginning. The chief marker checked against these periodically as they appeared. The result was good consistency with only minor differences in marking.

Commentary on Responses

Section A -	More students responded to question #3 than #1 and 2. On several occasions, students did more than one question when only one was required. Obviously, some students do not pay close attention to instructions given on the paper.
Section B -	These three questions were done on equally the same basis. Most students had no problem with #4(a) but in #4(b) many seemed to go of on a tangent when summarizing the "parable of the Lost Sheep"; most, however, manage to indicate the message that Jesus was trying to get

across to his listeners. #5 - Items done evenly; Zacches tone best but many students were confused by the Travel Narrative. #6 - For the most part, this question was well done - but some students showed weaknesses in handling the "importance" of the Resurrection to the early Christian Church and subsequently.

Section C - More students responded to question #7; however, in answering #7(b) many simply described Saul's conversion - they seemed unable to describe both personalities. Questions #8 and 9 were answered on an equal basis - no apparent problems.

Section D - Question #10 answered fairly well and almost consistently by all students. However, some students who answered question #11(a) was confused with the experience of Paul during his conversion. Question #11(b) answered very poorly. Question #11(c) - some students confused this with the Hebrew-Hielenist dispute. Question #12(a) was poorly answered. #12(b) poorly answered, especially second part of question when asking for the compromise. However, Section D was well done and markers indicated same, ranging for the most part 15-20%.

Recommendations

The exam was good. Suggest that next year's exam be similar

BIOLOGY 3201

Chief Marker: T. Roland Peddle

A. PRE-MARKING APPRAISAL

Again, there are too many items in Part I that contain ambiguities or mistakes. These, with field test items, made it too frustrating for students - especially those who gave questions considerable thought. The inclusion of questions from the optional section of the Curriculum Guide and from outside the course is unfair. Core course material was ample from which to choose questions.

The wording of core questions of Part II is too difficult for many students. It deterred students from answering the questions properly since they, and many teachers, didn't understand the questions. However, some of the field test questions of Part II are quite good.

We agree with the concern expressed by so many teachers that the blending of core test items with field test items hindered the overall clarity and purpose of the exam. The frustration and fatigue caused by Part I items affected students so much that they could not confidently approach the task of interpreting and completing the heavy Part II questions. We feel that the questions themselves, if rephrased, could adequately be done by most students.

B. POST-MARKING REPORT

Organization and Procedure

The board, one third of its original size, was organized as a single panel, with core questions distributed among markers and corrected prior to beginning the forty-eight field test questions, number three on each form of Part II.

In order to have more consistency, these were marked together after the core questions, where each marker was responsible for six questions.

Marking Standard and Consistency

Initially, because of the exam format, we decided against putting papers through without marking on them, and them putting them through again to check for consistency. However, it was done later, but the extremely low marks allowed for practically no deviations. Consistency was completely on!

Since there were only six question on Part II, five core questions and one field test question, and these were done directly on the test booklet, answers were much easier checked than in preceding years. Marks did not have to be placed on computer sheets but were put directly into the computer, allowing more time for mark consistency checks throughout the duration of the board.

Commentary on Responses

Since this exam was probably the most difficult and most discussed of any public exam ever given in this province, the following might summarize the reasons for the difficulties and frustrations experienced by students.

Questions extended far beyond the depth of treatment questions prescribed in the Curriculum Guide. In an attempt to obtain higher order questions, too many items were worded in a confusing manner, often without a clear-cut answer.

Many of the items of Part I emphasized insignificant knowledge in the text. Diagrams were beyond the scope of the course; as well, some diagrams were unnecessary, and in many cases, confusing in the light of the choices given.

Recommendations

- All items in the item bank should be thoroughly examined by a panel of practicing biology teachers. This panel should be not less than ten teachers, preferably teachers not involved with the original effort.
- Exams should be proofread by persons having firsthand knowledge of the present biology course.
- Biology teachers should be informed in September of the format of the 1990 exam.
- When selecting items, one must be cognizant of the need for correlation between what is actually taught and the method of evaluation. In Part II of the present exam, the emphasis on items attempting to evaluate concepts such as the processes of science and the nature of science itself passed over the heads of students, since the amount of material to be taught prevents teachers from emphasizing these things.
- Consider the great number of weak students who gravitate to biology due to limitation of choice in science courses.

CHEMISTRY 3202

Chief Marker: Helen O'Brien

A. PRE-MARKING APPRAISAL

The general feeling among markers was that the Chemistry exam was a reasonable paper. There was some ambiguity in Part I - as a result, the following changes were made in marking: #8, answers B and D were accepted, and #21, answers A and B were accepted.

The following adjustments were made to marking in Part II:

#4(a) (ii)	Since the question didn't specify conjugate acid-base pairs, 2 marks were given for any 2 acid-base pairs.
#3(c) (i)	Since HCN is not on the acid-base chart, it was agreed to give 2 marks for a general definition of strong and weak acids.
#3(c) (ii)	Markers agreed to accept a general statement, instead of looking for a specific test.
#4(b) (ii)H_2SO_4	should not have been used since the course requires only that monoprotic acids be covered. Also, the notation : mol L^{1} is not familiar to students. It was agreed to give one free mark and 4 marks for part (i). Part (ii) was not counted.

B. POST-MARKING REPORT

Organization and Procedure

The board consisted of 10 markers, sitting as a single panel. Each marker was assigned a question or part question. One marker totalled the marks and marked the multiple-choice section of the exam.

Marking Standard and Consistency

After a discussion of the questions and agreement on assignment of marks for various points within questions, a sample of 45 papers was marked on the first afternoon. Marks were not recorded on the examination booklets but on separate slips of paper. Later, these books were marked again, in their regular order and the two sets of marks were compared. There was a high level of consistency between the two sets of marks.

Commentary on Responses

The paper was generally well done, with certain areas of weakness being evident. Graphing skills are weak and many students lack a knowledge of control, dependent variable and independent variable in experiments. Other weaknesses which were evident in the papers were:

1. Inability to draw Lewis diagram of ions.
2. Problems with writing net ionic equations.
3. Calculating incorrect molar mass - a skill which should be known from Chemistry 2202.
4. Failure to write dissociation equations lead to incorrect calculation of ion concentration in questions #2 and 5.
5. Correct number of significant digits is ignored by many students.
6. Question #6 caused problems for students because of the unfamiliar (to them) notation of mol L and because the acid used in the titration was not monoprotic as is required by the limits of their course. Marking was adjusted to offset the problems created.
7. Questions #7 which required study was seldom attempted and when answered was usually poorly done.
8. Electrochemistry - Many students failed to include H_2O as a species. Since H_2O was also the strong reducing agent, parts (b) and (c) were often answered incorrectly.
9. Nuclear Chemistry was well done with the exception of part (c) which required study.

Recommendations

Suggestions for setting:

1. Follow course outline to prevent inclusion of unrequired items or unfamiliar notations, e.g., (a) polyprotic acids in titrations; (b) use of mol L.
2. Ensure that the values assigned match the questions. Markers felt that #4 required too much information for the marks allotted while #5 was over-valued.

GEOLOGY 3203

Chief Reader: Fred Halfyard

A. PRE-MARKING APPRAISAL

Good exam overall.

Part I - Objective #1 and 10 tested the same fact. #10 could have tested something else. Objective #11 not explicitly mentioned in text (suggested only). Possible answers are fair. Objective #19 has two possible answers - both accepted. [The question should have read "most"often.]

Part II - It was felt #11(a) might prove confusing die to the nature of the question - really four questions to one.

B. POST-MARKING REPORT

Organization and Procedure

The markers began by upgrading the key and discussing the individual questions and possible answers/ The panel then chose items which they felt would facilitate smooth flow of the papers.

Marking Standard and Consistency

Fifty exam papers were taken from across the board and marked placing grades on separate slips of papers. There were no markings made on the paper. Throughout the marking period these exams were reread and marked in the usual way. Consistency was acceptable.

Commentary on Responses

Part I - Generally students found the objectives more difficult than usual - especially questions #1-10. Questions #29 and 30 were missed entirely by some students apparently because of their location on the test paper.

Part II - Question #1 was rarely done and when attempted was poorly answered. For part (b), the minerals were arranged in the order of abundance but the percentages were often incorrect. Generally, the students who gave "ocean floor" as the answer in part (*i*) could not explain why.

- In question #4(a), the diagrams were often poorly drawn and rarely showed good sequential development. The description was often vague.

- Question #6 was not attempted by many students and those who tried seldom answered all three parts. In (b), few students noted the temperature and depth relationship of schist/gneiss, and the majority of students who attempted (c) misread "factors" for "types of weathering".

- In question #10(d), most common answers were: the sun, heat from lava, heat from pressure, heat from liquid in the outer core - few mentioned radioactivity.

- Question #11 was infrequently answered and generally poorly done.

PHYSICS 3204

Chief Marker: Helen O'Brien

A. PRE-MARKING APPRAISAL

The paper was considered to be a relatively easy exam which contained no significant problems or errors. In Part K, two questions were felt to be outside the course content and free marks were given for these questions - #5 and 22. In Part II, #5(c) - it was felt too much material was required and the question was changed to read - **Name** three properties, instead of **describe** three properties - for 3 marks.

B. POST-MARKING REPORT

Organization and Procedure

The board marked as a single panel. Twelve markers each marked a full or part question. One marker was responsible for Part I of the paper.

Marking Standard and Consistency

After the paper had been discussed and part marks agreed upon, 45 papers were marked on the first afternoon. Later, these papers were re-marked in their regular order and the two marks compared. Consistency was generally quite high. Any discrepancies in marks were the result of changes in marking after the first afternoon, i.e., after the "dry run".

Commentary on Responses

The "Investigative Skills" section continue to be a problem for many students. About 90% of students attempted question #1 but many showed a lack in graphing skills. Question #2 was attempted by about 10% and was generally poorly done.

Most Section B questions were reasonably well done. Some common errors were:

#5 - Inability to draw SCALE diagrams.
- Confusing concave and convex lenses.
- Confusing mirrors and lenses.

#6 - Poor diagrams.
- Many students misunderstood the instruction to "explain with the aid of a diagram". Many gave only a diagram.

#7(b) - Problems with exponents and units.
- Inability to apply Law of Conservation of Electric Charge and Electrostatics.

#8 - Incorrect symbols used for battery. Commonly used, incorrect symbols were:

(a)

(b)

#9 - Failure to include the idea that the switch must be turned on and off to create a CHANGING magnetic field which is necessary for induction.

Recommendations

Markers felt the paper was fine in its present format. It is hoped that Physics will **not** suffer the fate that has befallen Biology. It would be totally unfair to both students and teachers to make this kind of change.

One suggestion in setting questions which require diagrams - When the question reads - "With the aid of a diagram, explain ... ", students often give only a diagram. Perhaps, the question should be made clearer, e.g., "A clear labelled diagram is required **and** an explanation is also required".

Re objectives (Part I) - When there are questions on the last page as in this year's exam, **OVER** should be written on previous page. Many students missed #29 and 30 on Part I.

ENVIRONMENTAL SCIENCE 3205

Chief Marker: Fred Halfyard

A. PRE-MARKING APPRAISAL

It was agreed by the marking panel that the test was of acceptable length and difficulty.

The markers felt that in Section C, a choice of two out of three would have been more acceptable than #10 and any one other.

B. POST-MARKING REPORT

Organization and Procedure

The markers began by upgrading the key and discussing the individual questions and possible answers. The panel then chose items which they felt would facilitate smooth flow of papers.

Marking Standard and Consistency

Fifty exam papers were taken from across the board and marked placing grades on separate slips of paper. There were no markings made on the exams. Throughout the marking period, these papers were reread and marked in the usual way. Consistency was acceptable.

Recommendations

This year the graph paper did not have any adhesive and consequently could be easily mislaid. It was felt that in the future the traditional graph paper be used.

(Note: A number of students did not submit a graph. We had no idea whether that part was omitted by the student or the graph paper was lost.)

WORLD HISTORY 3201

Chief Marker: Dennis O'Keefe

A. PRE-MARKING APPRAISAL

The History Board appraised the paper in its entirety an decided on a fair distribution of paper items per marker.

The board felt the paper was well composed. The items were explicit and for the most part sought information which was basic to an understanding of 20th century historical development.

It was felt, however, that in some items, such as 3(a), there was too much emphasis on a specific detail rather than overall situation.

The awarding of "seven" points in part (c) of each question can cause some difficulties when only two or three points are being asked for. Inevitably one point or more is left hanging.

Aside from these observations, it was felt the paper was a well balanced assessment of the World History course.

B. POST-MARKING REPORT

Organization and Procedure

Items were assigned to each marker to ensure a free flow of papers and an equitable distribution of the work load. This was accomplished through discussion and analysis of the difficulty of each question as well as anticipating the frequency of the item. In cases where the flow of papers slowed, the appropriate re-assignment of questions was made.

Marking Standard and Consistency

Before marking began each question was fully discussed and analyzed by the markers. Using the key as a point of reference, a marking standard was established for each item. To check consistency, a number of examinations were selected at random and marked on separate paper. They were replaced in their stacks. As they turned up in the regular correcting procedures, the marks were then compared for consistency. Any major inconsistencies were discussed and re-evaluated by both the Associate and Chief Marker. The Chief Marker would also select papers at random and read them checking for validity and consistency of marking.

Commentary on Responses

Taking into consideration commentaries provided by markers, the following observations can be made.

1. Frequently, students have difficulty judging the appropriate length of an answer. At times, answers are either too long and rambling, or extremely brief.
2. Students continue to write exams in pencil and neglect to mark off questions they do. This makes the correction of papers unnecessarily cumbersome and slow.
3. In some cases, students tended to misread the question and thus provided answers that were very vague and general or completely unrelated to the intent of the question.
4. It appears that students have difficulty with questions asking to "assess" "evaluate" or explain the "significance of". They would rather "name", or "identify" either because this is the extent of their knowledge or because they feel this type of response will elicit full marks.
5. Most markers felt the exam as constructed is good. In particular, they felt Part (c) of each question properly encourages reflection, thought and deductive thinking.

Recommendations

Most markers felt the exam as presently constituted is fairly reasonable. While there were some suggestions for improvements, there was no unanimity. Many felt that the Current Events section should be restructed and some attempt should be made by the Department of Education to eliminate the guessing and make this section more predictable. For example, toward the end of the school year, a general list of potential topics could be provided as a guide to teachers.

Setters should not try something new simply to be different. The examination should test the major topics of the course. Care should always be taken not to include material of a trivial or insignificant nature.

WORLD GEOGRAPHY 3202

Chief Marker: Calvin Cole

A. PRE-MARKING APPRAISAL

This paper compares favourably with past exams and as such covers the major topics of the course. In the case of some objectives, because of the wording of the lead, more than one answer was accepted, e.g., #8, 18. In other cases, because of problems with the options, more than one answer was accepted, e.g. #13 and 22. Generally considered a fair exam; however, it is felt that it offers little challenge to the better student.

Organization and Procedure

Markers chose or were assigned to questions from chapters which they taught this year. Some questions, such as #1 =, has only one marker assigned while others, e.g., #8 had two markers depending upon the demands of the question and the frequency of the answer. After the first couple of days, minor re-organizations occurred to allow for a good "flow" of papers. One person was assigned to "totalling" while the checkers were required to check the papers for accuracy and tabulation.

'Marking Standard and Consistency

The usual "dry run" was done as well as periodic checking by the Chief Reader. Very few variations existed. Where they did, the marker was informed and an explanation was given.

Commentary on Responses

Generally, the responses to most items were well done with approximately 80% passing the examination. Numbers 1, 2, 3, 5(a), 8, 9, 11, and 15 were the most popular questions and often getting the best marks. Without doing the item-by-item analysis, there were some difficulties that should be referred to. Much misunderstanding exist over terms such as Recycable, Renewable, Non-renewable and Permanent Resources. "Agglomerating tendency" presented much difficulty. As well, there was confusion between Eastern Europe and Western Europe.

In #1, students often defined "immigration" and "emigration" by using "moving into and out of" without clearly differentiating between the two terms. Also in #1. "biosphere" was not well defined. With #2, the most common difficulty was with the influence of ocean currents and prevailing winds. In #3, many students failed to recognize "resource based" and "market based" industry. The most common problem with #6 was the failure to give the relative advantage of eh components of transportation to road and rail. Many did not restrict their answers to landforms and economic activities in #8. "Ethically" in #9 was frequently misinterpreted. In #10, many students either dealt with climate influences only or they would state one reason in three different ways. In #14(b) (i), students had problems to apply knowledge from previous chapter to this question. In #15(A) (i), the term "ecoseptem" seemed to have been misunderstood and many students did much unnecessary and unrelative rambling. The Case Study was not well done. Many students have no understanding of the item "agglomerating tendency" and this led to problems with the rest of the question. In addition, those students who chose to do "capital" in #16(b) did poorly. Perhaps this was due to the fact that there is little direct reference to it in the Case Study. It was suggested that Section C have another question in previous years, thus giving another option.

Recommendations

1. The exam should be very carefully proofread by somebody familiar with the course and its termology. There are too many errors in this year's paper.
2. Daily work schedule should be arranged to allow at least half day off on Saturday.
3. The pay schedule should be reviewed.

WORLD PROBLEMS 3204

Chief Marker: Dennis O'Keefe

A. PRE-MARKING APPRAISAL

The World Problems Board discussed the examination and decided on a fair distribution of items to be corrected per marker.

The markers felt the paper was of good quality. The questions were straight forward and explicit. The amount of time for the exam was appropriate for the number of questions required and the degree of difficulty of the items.

There were no great difficulties with the examination and no special measures were required in the marking. However, it was felt that more consistency should be employed in assigning values to various items. It was noted that some questions, though of equal value, required much different amounts of information; e.g., items 5(b), 6(b), and 7(a).

B. POST-MARKING REPORT

Organization and Procedure

Items were assigned to each marker to ensure a free flow of papers and an equitable distribution of the workload. This was accomplished through discussion and analysis of the difficulty of each question as well as anticipating the frequency of the item. In cases where the flow of papers was impeded from time to time, the appropriate re-assignment of questions was made.

Marking Standard and Consistency

Before marking began, each question was fully discussed and analyzed by the markers. Using the key as a point of reference, a marking standard was established for each item. to check consistency, a number of examinations were selected at random and marked on separate paper. They were then replaced in their stacks. As they turned up in the regular correcting procedures, inconsistencies were discussed and re-evaluated by both the Associate and Chief Marker. Periodically, the Chief Marker would select and read papers checking for consistency and validity of marking.

Commentary on Responses

Taking into consideration commentaries provided by the markers, the following observations can be made:

1. The answers provided by many average students were unnecessarily brief and were relatively poor in quality. Students apparently are having quite a bit of difficulty in deciding how much of an answer to provide for the marks allotted. Most provided very brief answers but some provided extremely lengthy answers for items worth only several marks. The problem is compounded when directions such as "identify", "name" or "suggest" are used.
2. Students provided little in the way of specific detail and rarely gave specific examples to back up their viewpoints. The result was answers of too general a nature.

3. Despite directions provided, a fair number of students continue to write exams in pencil and neglect to properly mark off questions they have done. This often makes questions difficult to read and as well slows down the correction procedure.

Recommendations

The Exam paper in its present format is considered by the markers to be fairly reasonable and acceptable. Again, many felt the Current Events section should be restructured so that students and teachers will be better able to predict its content. Possibly, toward the end of the year, a general topic list could be circulated by the Department of Education. This would eliminate the guesswork involved in predicting which topics are important enough to be examinable and which are not.

As in World History, care should be taken by setters not to include material of a trivial or insignificant nature.

SCHOLARSHIP EXAMINATION

Chief Marker: Malcom Squires

A. PRE-MARKING APPRAISAL

Following analysis by the members of the marking panel and consulting with the panel members of the specific subjects, it was felt that the scholarship examination was a fair representation of the level three course content.

The marking panel noted, however, the following:

Advanced Math 3201, question (F) contained no correct solution among the responses.

Academic Math 3203, question (J) contained two correct solutions as response (A) and (B) were correct.

French 3200 contained several typing errors. In the first paragraph - last line "glace t la" should have read "glace et la", second paragraph - first line "tre" should have read "tres", and in the third paragraph third line "Les Tremblay one" should have read "Les Tremblay ont". Also, there were 20 blanks for 10 marks necessitating the use of half marks (creating a computer problem). In French 3201, line four "mail il y a" should have read "mais il y a". Finally, question (b) of Physics 3204 contained no correct response. The remaining sections were straightforward and provide a fair representation of the selected courses.

B. POST-MARKING REPORT

Organization and Procedure

To facilitate the marking of papers, markers were assigned duties based upon their subject (teaching) background. Those subject areas remaining were assigned to facilitate the flow of papers around the table.

Marking Standard and Consistency

Two procedures were adopted to maintain the marking standard and consistency. First, a sample group of papers (approximately 50 papers) were randomly selected and marked by the panel with the scores placed on a separate piece of paper. Throughout the remaining marking period, these papers were re-circulated and marked. The grades assigned were compared to those assigned during the sample marking.

Secondly, the chief marker randomly checked marked papers against the master marking key as a further check for marking consistency.

Commentary on Responses

Marker - Susan McNicholas

Art and Design 3200

Many students appear to have little background in Art and Design. In 10-20% of papers, no attempt was made on this section. Another 10-20% of students filled the blanks with the same letter throughout, indicating little knowledge in this area.

Art History 3202

Most students performed in a similar fashion in this section as in Art and Design 3200. Marks were generally low.

Folk Literature 3200

Very few students obtained full marks in this section. Generally, this section was completed by all students and marks obtained were moderate.

Marker - Clayton Rowsell

Advanced Writing 3103

While this item was omitted by approximately 20% of students, I still think it was appropriate and fair for a scholarship examination. Given the good choice within the item, it should not have posed any great difficulty for students.

In part (a), some students did not readily understand the characteristics of free verse poetry; part (b) was done most often; and in part (c) some students simply defined the components of a short story rather than illustrate them with original examples. (In this part, as well, often students did not select their illustrations to reflect "a possible plot outline for **one** story" - the illustrations were unrelated.)

For students who completed this item, generally the marks were fair. But there were some exceptionally good pieces of writing, especially poetry.

Literary Heritage 3202

There were no problems as such with this item. However, the item does discriminate against students in schools not offering the course. The Thematic Literature 3201 section, because of its nature, can be done and done well by students even if they have not completed the course. But the specific nature of Literary Heritage 3202 dictates that students not having completed the course would not score as well.

The most frequently occurring marks on this section were 5 and 6 out of a possible 10.

Marker - Harry Clarke

Language 3101

The passage provided for analysis ("The Living Thought of Pascal") was quite appropriate, albeit somewhat brief, and presented very little difficulty from a marking perspective because of the variety of responses possible - some of which were more accurate than others and necessitated a rather subjective division of alotted marks.

Thematic Literature 3201

The poem ("Palms") was reasonably straightforward and the majority of students were able to comprehend its literal meaning quite readily. However, a significant number of students tended to interpret that the speaker was dead and that the poem represented his/her recollections while lying in the grave.

Weaknesses were apparent in item (b) where respondants failed to specify where the central image occurred in the poem, and in item (d) where students often did not display a clear conception of the distinctive features of Free Verse poetry.

Marker - Barbara Leonard-King
Textiles

No problems. All questions accurate and acceptable.

French 3200

Again this year, there were 20 blanks in this section yet it was worth only 10 points. Therefore, many of the students received half marks, even though the computer doesn't accept them. I would recommend only 10 blanks if the value is to be 10 points. Otherwise, there were no real problems with this section.

French 3201

Unlike French 3200, there were only 10 blanks in this section worth the full 10 points. Both sections should contain an equal number of blanks. Students, though had no real difficulty completing this section.

I would recommend that if such an exercise as #10 and #11 were given again, the person making the close test be more selective in choosing which words to leave out.

It's very difficult to create a key when there are more than 3 or 4 acceptable answers. For some of these blanks this year, there were as many as 6 possible answers.

Marker - John Bonia
Music Theory 3100

This question had responses from approximately 20% of the students who wrote the examination. It is a very good test of the musical knowledge of the respondent but allows for a wide variety of correct responses. Students tended to respond either very well or very badly to this question, depending on their background in 4-part harmony writing and harmonic analysis.

Perhaps this question was a little strong, given the nature of the examination and the number of responses which could be considered correct.

Marker - Robert Beauchamp
Western Religions 3100

This section was generally very well answered, with no problems in wording.

World Religions 3101

This section posed no problems with wording and was answered by approximately 60% of the students responding.

Gospels 3105

This section was answered by less than 50% of the students. The section posed no problems with wording and was accurate and acceptable.

New Testament 3109

This section was answered very well by the majority of students that responded.

Question (e) may have posed a problem to some students, but overall the section was accurate and acceptable.

Physics 3204

Item (b) was incorrectly worded and could not be answered. This item was deleted and the section was marked out of 9 instead of 10.

There was no other problems and the questions were answered by most students responding, with approximately 40-50% receiving a passing grade.

Marker - Charles Snelgrove
Biology 3201

Generally well done. No items outstanding. Students having done Biology obviously did well in this section.

Chemistry 3202

Generally well done when attempted. Guessing very successful using the letter C - 5 out of 10. Again, students having done Chemistry were obvious. No outstanding items.

Geology 3203

Done well by Geology students. Done reasonably well generally. No outstanding items.

Marker - Pat Brewer
Statistics 3104

This section was answered very well by those students who obviously had completed the course.

Advanced Math 3201

This section was very well answered by most students. Many of the students who did poorly obviously did not read the instructions as they did both the Advanced Math and Academic Math sections. I would suggest that the instruction on doing one Math section be written in large bold type on the cover and at the beginning of the Math sections.

Item f had no correct answer and therefore all students who attempted this item were given one mark.

Academic Math 3203

This section was answered very well by most students.

Item j had two correct answers and students were given a mark if they had one of the two correct answers.

Music History 3101

This section was answered very poorly by most students although those who obviously completed the course did very well.

Marker - Loyola O'Rielly
World Problems 3204

Very few candidates scored full marks in this section, and all items appeared to be of equal difficulty. Many students scored well in the current events section. The average score was probably around 5.

World Geography 3202

Of the three social studies, it was in this section that students scored the best. The average mark was probably around 6/7. This may have been due to the fact that the responses given for students to choose from were more straightforward than in the other sections.

World History 3201

Most students did not score well in this section - an average mark of 4.5 was obtained. This may have been due to the nature of the items asked and the responses from which the students had to choose. It was obvious that many students were guessing. There were no current events items, even though today's issues make up 20% of the course content.

Recommendations

Members of the marking panel felt that there should be a greater balance of marks between:

(i) Advanced Writing 3103 and Language 3101
(ii) French 3200 and French 3201

SECTION III
JUNE 1989 EXAMINATION PAPERS

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

ART AND DESIGN 3200

JUNE 1989

Value: 100 marks

Time: 3 hours

Examination Number ________________

GENERAL INSTRUCTIONS

1. The examination consists of objective and essay items, arranged in five sections as follows, and candidates are required to do **ALL** sections as directed in each:

   SECTION A — Design — 20%
   SECTION B — Drawing and Painting — 20%
   SECTION C — Other People's Art — 20%
   SECTION D — Media — 20%
   SECTION E — Optional Units — 20%

2. Note that some parts of the examination will require reference to art plates contained in the Booklet of Art Plates provided. Specific references will be indicated at the beginning of sections, where applicable.

3. Answers are to be written in this booklet. Do not use allotted answer spaces for rough drafts which you may wish to discard.

4. Be sure to write your Examination Number in the space above.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the chief Supervisor prior to the first session, and have been posted for further reference near the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

— Materials required
— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

Value

SECTION A

Design

Do the ONE complete item in this section. Total value: 20%.

Reference: Plates 1-20.

20 1. Choose the correct plate to match each of the following statements, and write the number of your choice in the blank at the right. Do not use the same plate more than once.

(a) An example of environmental art ....(a) ________

(b) An example of assemblage which changes the original function of the found objects ....(b) ________

(c) This artwork relies heavily on chiaroscuro to create a dramatic atmosphere ....(c) ________

(d) An example of a poster that uses contradiction between text and the visual image to create its message ....(d) ________

(e) The bird's eye view adds drama to this etched image ....(e) ________

(f) An example of dramatic lighting in a portrait ....(f) ________

(g) An example of kinetic art ....(g) ________

(h) An example of calligraphy ....(h) ________

(i) An example of primitive sculpture ....(i) ________

(j) An example of an embossed image ....(j) ________

(k) An example of one point perspective in a Renaissance artwork ....(k) ________

(l) A psychological self-portrait that relies heavily on line, texture and movement ....(l) ________

(m) An example of geometric abstraction of subject matter resulting in a flattened sense of space ....(m) ________

(n) A sculpture in which the figures have been reduced to minimal, geometric forms..............(n) ________

(o) An example of optical illusion created through the distortion of a pattern..........................(o) ________

(p) An example of "relief" sculpture ....(p) ________

(q) A woodcut with a flat ornamental pattern in which forms are defined by simple, heavy contour lines ....(q) ________

(r) a vertical-format graphic design that achieves emphasis through high value contrast..........(r) ________

(s) An example of collage ....(s) ________

(t) A non-representational artwork that contains a continuous organic line of varying quality ....(t) ________

SECTION B

Drawing and Painting

Do ALL items in this section. Total value: 20%.

8 2. Define any EIGHT of the following terms briefly and accurately:

(a) wash drawing ____

____

(b) impasto ____

____

Value

(c) contour line ____________________

(d) genre ____________________

(e) motif ____________________

(f) crosshatching ____________________

(g) still life ____________________

(h) subjective colours ____________________

(i) composition ____________________

(j) narrative art ____________________

6 3. Briefly define any **THREE** of the following terms or styles in painting by naming one artist to represent each and one major defining characteristic.

(a) **Cubism** - Artist: ____________________

Characteristic: ____________________

(b) **Renaissance** - Artist: ____________________

Characteristic: ____________________

(c) **Surrealism** - Artist: ____________________

Characteristic: ____________________

(d) **Pop Art** - Artist: ____________________

Characteristic: ____________________

Value

(e) **Baroque** - Artist: ____________________

Characteristic: ____________________

____

____

6 4. Do **ALL** parts of this item by writing the letter of the correct response for each in the blank at the right.

(a) What term describes the system of painting which relies on optical colour mixing? ....(a) ________
(A) fresco
(B) photorealism
(C) silverpoint
(D) pointillism

(b) What term describes colours that are selected by the artist to reflect the natural appearance of an object? ....(b) ________
(A) analogous
(B) local
(C) warm
(D) subjective

(c) What is another term for opposite colours? ....(c) ________
(A) tertiary
(B) cool
(C) complementary
(D) pastel

(d) With what concept were the impressionists primarily concerned? ....(d) ________
(A) subconscious
(B) emotional impact of colour
(C) effects of light
(D) flattening of space

(e) With which of the following would a hue have to be mixed to form a tone? ....(e) ________
(A) white
(B) another hue
(C) its opposite
(D) grey

(f) What is the dark area created on a surface by a light-blocking object? ....(f) ________
(A) cast shadow
(B) highlight
(C) chiaroscuro
(D) stipple

SECTION C

Other People's Art

Do **ALL** items in this section. Total value: 20%.

Reference: Plates 21-27

10 5. Identify any **FIVE** of the plates numbered 21-27 by giving for each the name of the artist and the name of the style or movement to which the artist belongs.

	Plate No.	Artist	Style or Movement
(a)	21		
(b)	22		
(c)	23		
(d)	24		
(e)	25		
(f)	26		
(g)	27		

Value

10 6. Describe how the artist used materials and/or design elements to achieve the quality indicated for each of any **FIVE** of the following plates.

(a) Plate 21 - Balance: ______________________________

____

____

(b) Plate 22 - Unity: ______________________________

____

____

(c) Plate 23 - Depth: ______________________________

____

____

(d) Plate 24 - Variety: ______________________________

____

____

(e) Plate 25 - Emphasis: ______________________________

____

____

(f) Plate 26 - Softness: ______________________________

____

____

(g) Plate 27 - Centre of Interest: ______________________________

____

____

Value

SECTION D

Media

Do any **TWO** items in this section: Total value: 20%.

Reference: Plates 28 and 29

10 7. Plates 28 and 29 represent advertisements for watches. Compare the two ad designs in terms of the following:

(1) content
(2) composition
(3) message and intended audience
(4) artistic merit

10 8. Briefly describe a popular current rock video which you feel is creatively designed. Describe how visual elements are used to create meaning and mood in the video.

Value

10 9. Plan the design for a bulletin board display aimed at informing teens about one of the issues listed below. Be sure to discuss content, size, medium, composition, symbolism, colour, and effective lettering style. You may include a sketch if you wish.

(a) Acid Rain
(b) AIDS
(c) Charity work by Rock Bands
(d) Student Council Work

SECTION E

Optional Units

Section E contains nine items in all - one item for each of the optional units offered in this course. Select and do any **TWO** complete items. Write your answers in the spaces that follow the last item. Be sure to number each response correctly. Total value: 20%.

4 10. CERAMICS AND POTTERY

(a) Define any **FOUR** of the following terms:

(i) glaze
(ii) greenware
(iii) throw
(iv) kiln
(v) wedge
(vi) pyrometric cone

6 (b) Explain **THREE** ways one can decorate the surface of a clay container.

11. PHOTOGRAPHY

4 (a) Define any **FOUR** of the following terms:

(i) camera obscura
(ii) aperture
(iii) shutter
(iv) f-stop
(v) depth of field
(vi) photogram

Value

6 (b) Explain **THREE** ways composition may be used to improve either the communication or the aesthetic appeal of a photograph.

12. TEXTILES AND FABRIC DESIGN

4 (a) Define any **FOUR** of the following terms:

(i) weaving
(ii) tapestry
(iii) tie dye
(iv) stencil design
(v) fibre
(vi) quilting

6 (b) Explain the batik process of creating a design on a piece of natural fabric.

13. FILM AND FILM MAKING

4 (a) Define any **FOUR** of the following terms:

(i) zoom
(ii) animation
(iii) voice-over
(iv) edit
(v) splice
(vi) fade

6 (b) Suppose that you are making a short film about your school. Briefly explain the importance of any **THREE** of the following aspects of film making in ensuring that the film will interest the public.

(i) the storyboard
(ii) pacing
(iii) audio
(iv) camera angle
(v) credits

10 14. CRAFTS AND CRAFTSPEOPLE

Choose one craft that you have studied, and describe it in full detail under the following headings:

(1) Name of craft
(2) Materials and equipment needed
(3) Procedure for producing a finished product
(4) Considerations for marketing this product

10 15. ENVIRONMENTAL ARTS

Your town is expecting an economic boom over the next ten years. People are concerned about how the expansion and development will affect their quality of life. Identify at least one potential problem, and suggest a solution to be considered by the town planners, with regard to each of the following:

(i) traffic flow
(ii) recreation space
(iii) cultural heritage
(iv) visual aesthetics

16. THEATRE ARTS

4 (a) Define any **FOUR** of the following terms:

(i) blocking
(ii) technical rehearsal
(iii) mime
(iv) understudy
(v) upstaging
(vi) blackout

Value

6 (b) Audience interest in a theatrical production can be enhanced by variety in lighting, sound and costume. Suggest how you might achieve variety in all three aspects.

10 17. APPLIED DESIGN

A major soft drink company is looking for an innovative design for a container. What major factors must be considered by the designer from the planning stage through to sales? Be sure to address functional, visual and marketing concerns in your answer. Use sketches if you wish.

10 18. NEWFOUNDLAND ART AND ARTISTS

Choose two Newfoundland artists who deal with different subject matter. Discuss how each artist's medium, style and technique have been employed in addressing, or commenting on, the subject matter.

Response for Item # ______

Response for Item # ______

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

ART AND DESIGN 3200

JUNE 1989

ART PLATES BOOKLET

This booklet is to be distributed to candidates together with the Art and Design 3200 examination paper before the start of the examination.

Candidates will be directed in individual items to refer to the Art Plates contained in this booklet. Plates are numbered from 1 to 29.

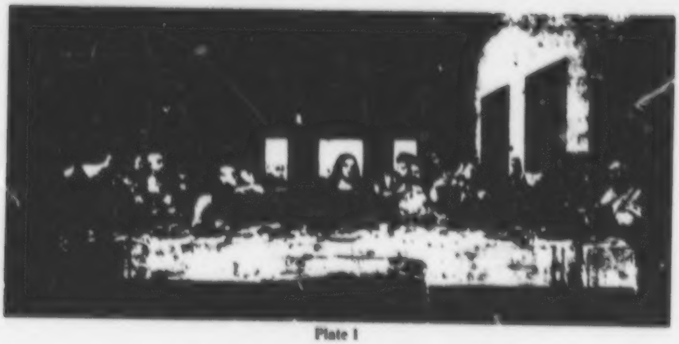


Plate 1

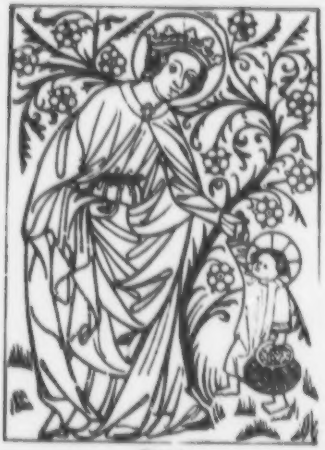
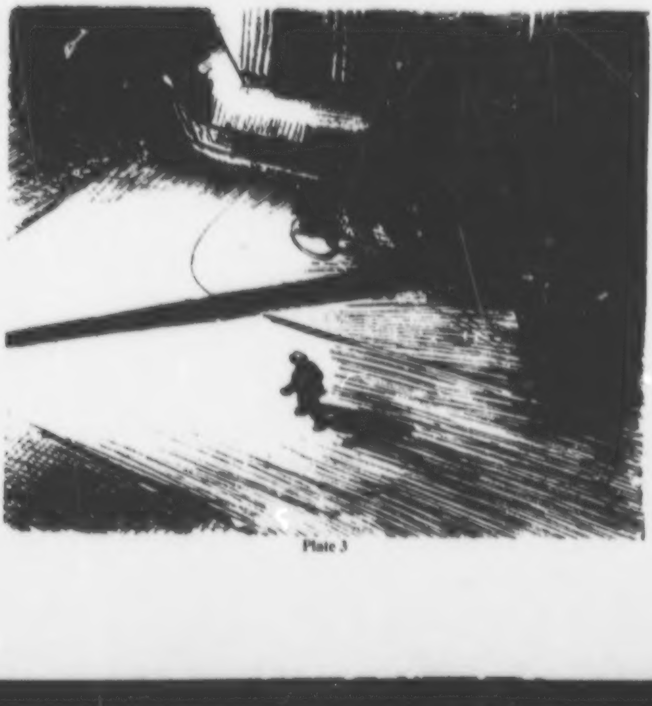


Plate 2



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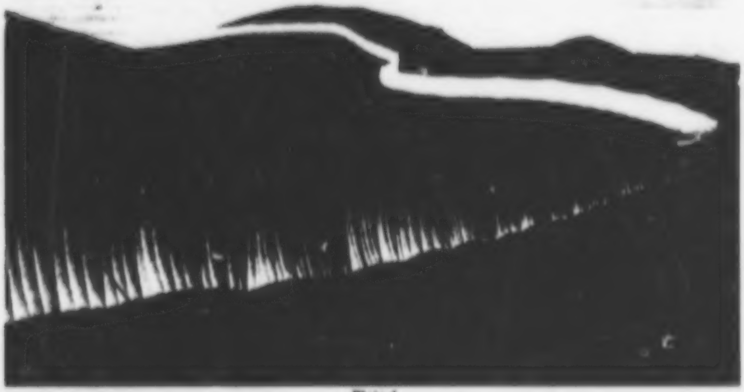

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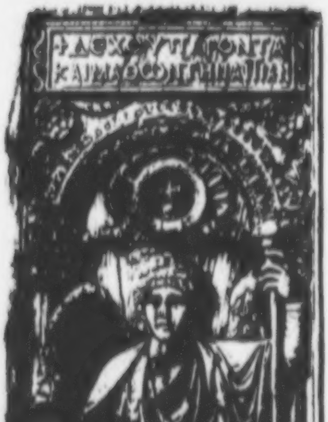

Plate 5

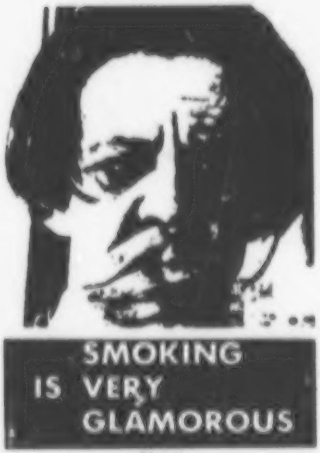
SMOKING
IS VERY
GLAMOROUS

Plate 6

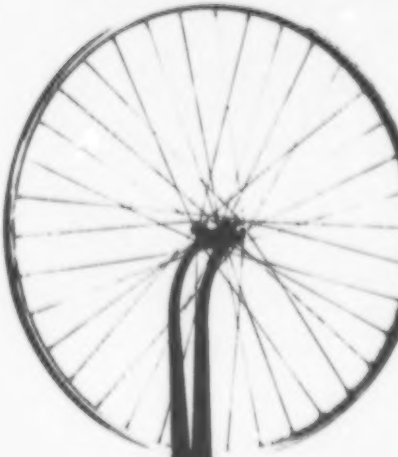

Plate 7

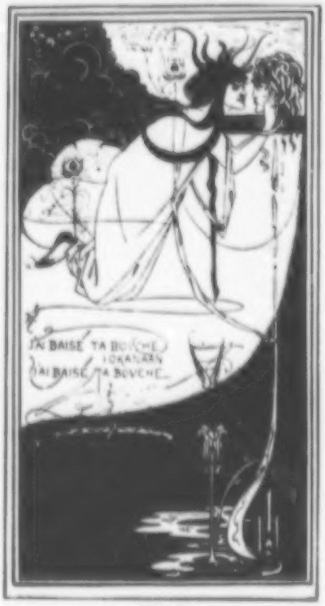
J'AI BAISÉ TA BOUCHE
IOKANAAN
J'AI BAISÉ TA BOUCHE

Plate 8

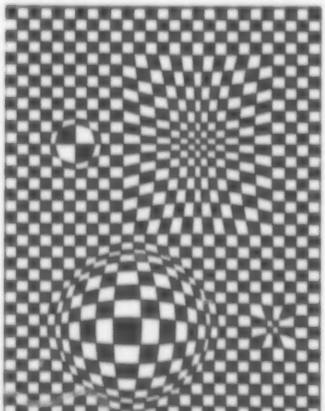

Plate 9

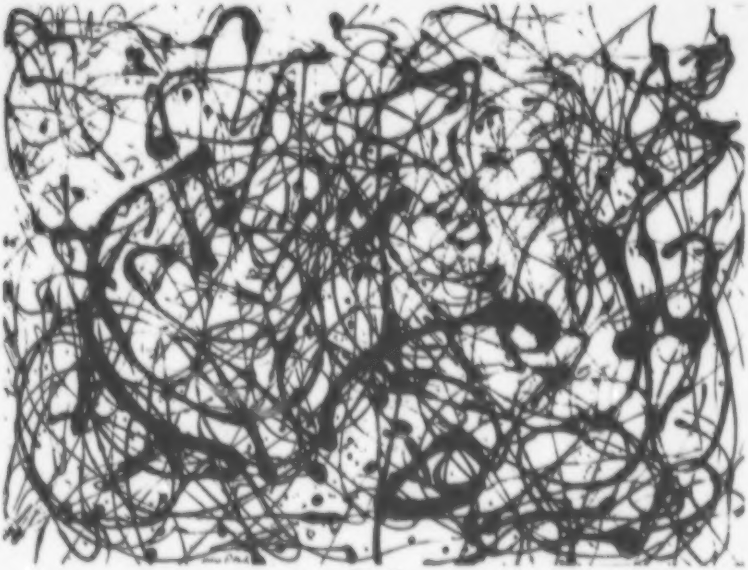

Plate 10

Plate 11

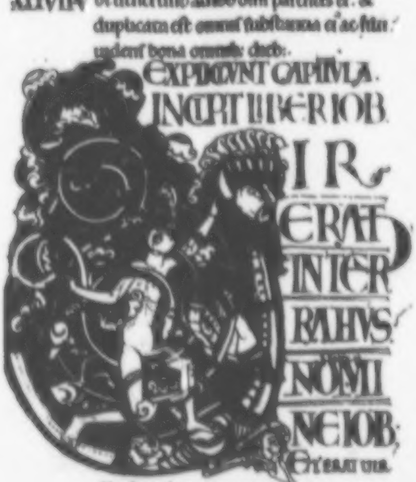
EXPLICIVNT CAPITVLA.
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Plate 12

Plate 13

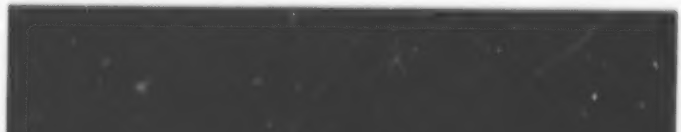


Plate 14

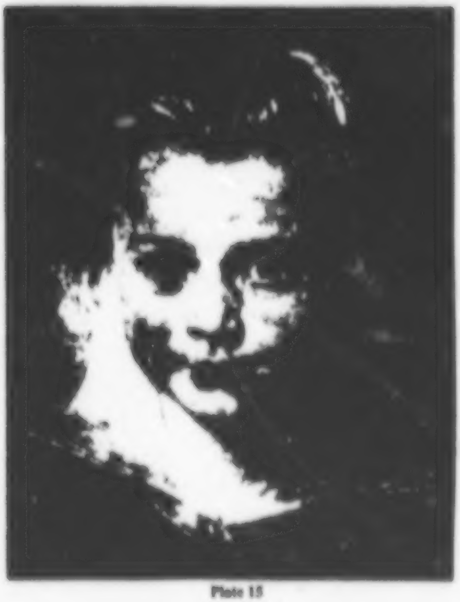
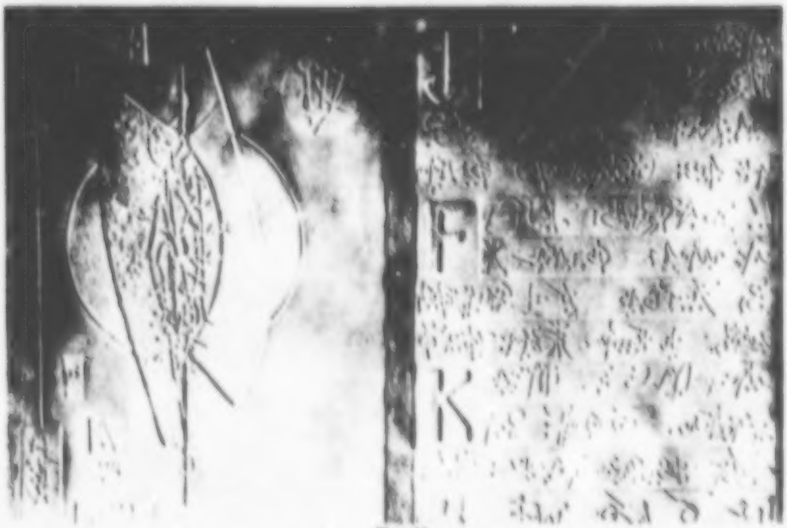


Plate 15



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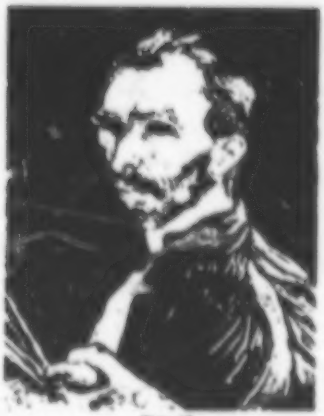

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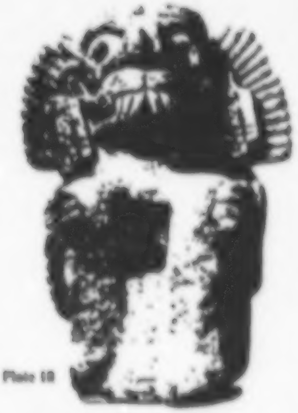
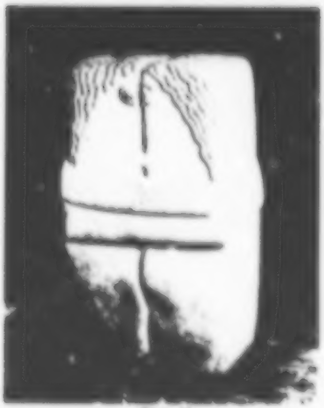


Plate 18



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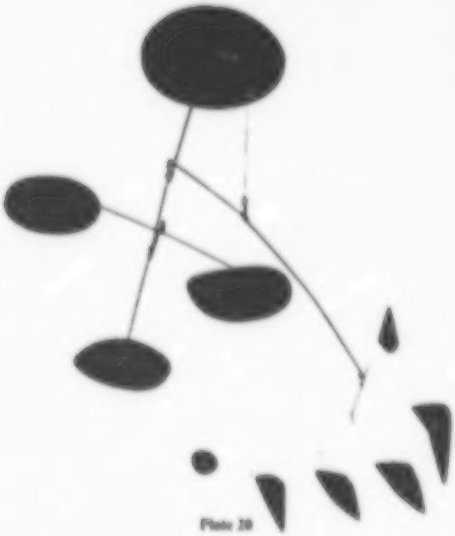


Plate 20

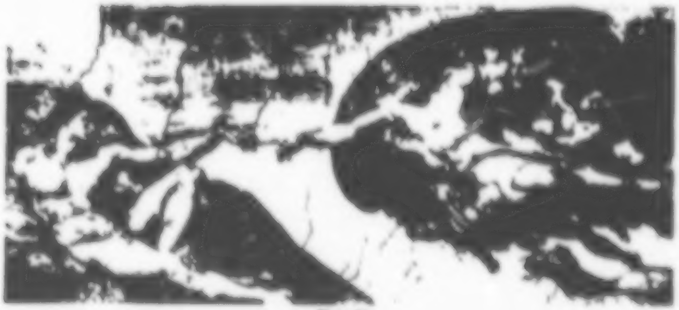


Plate 21

Plate 22

Plate 23

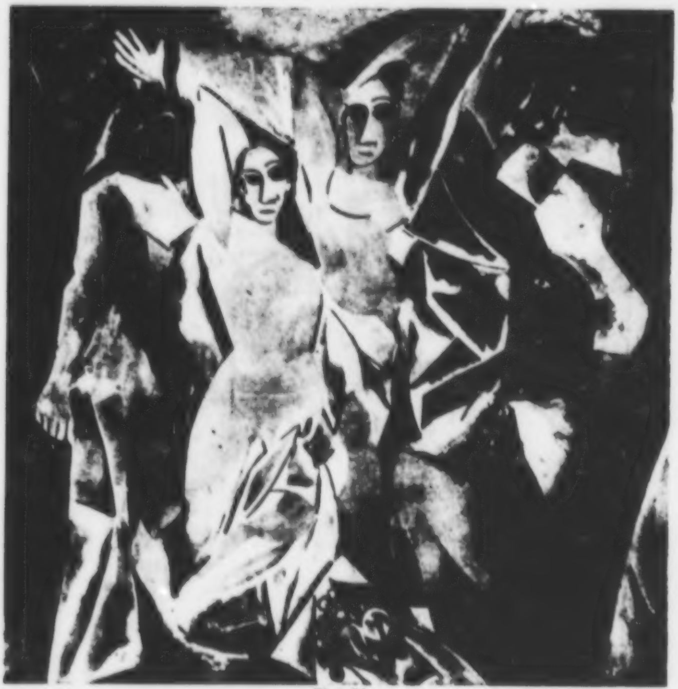


Plate 24

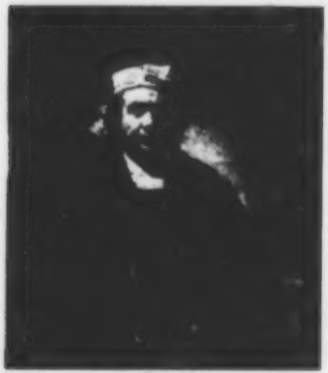
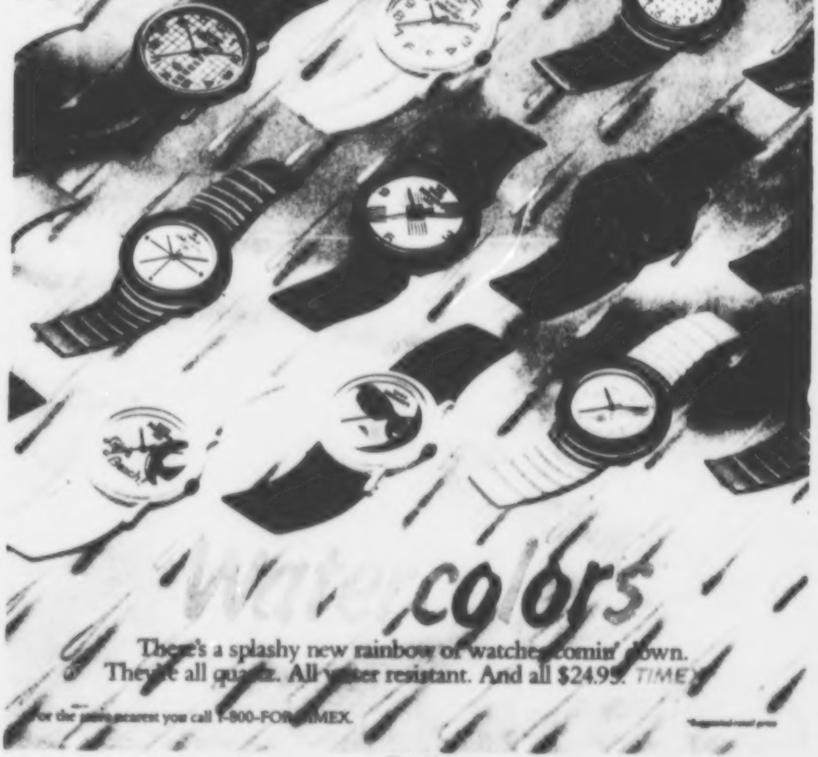


Plate 25

Plate 26

Plate 27



There's a splashy new rainbow of watches comin' down.
They're all quartz. All water resistant. And all $24.95.* TIMEX

For the store nearest you call 1-800-FOR-TIMEX.

*Suggested retail price

Plate 28

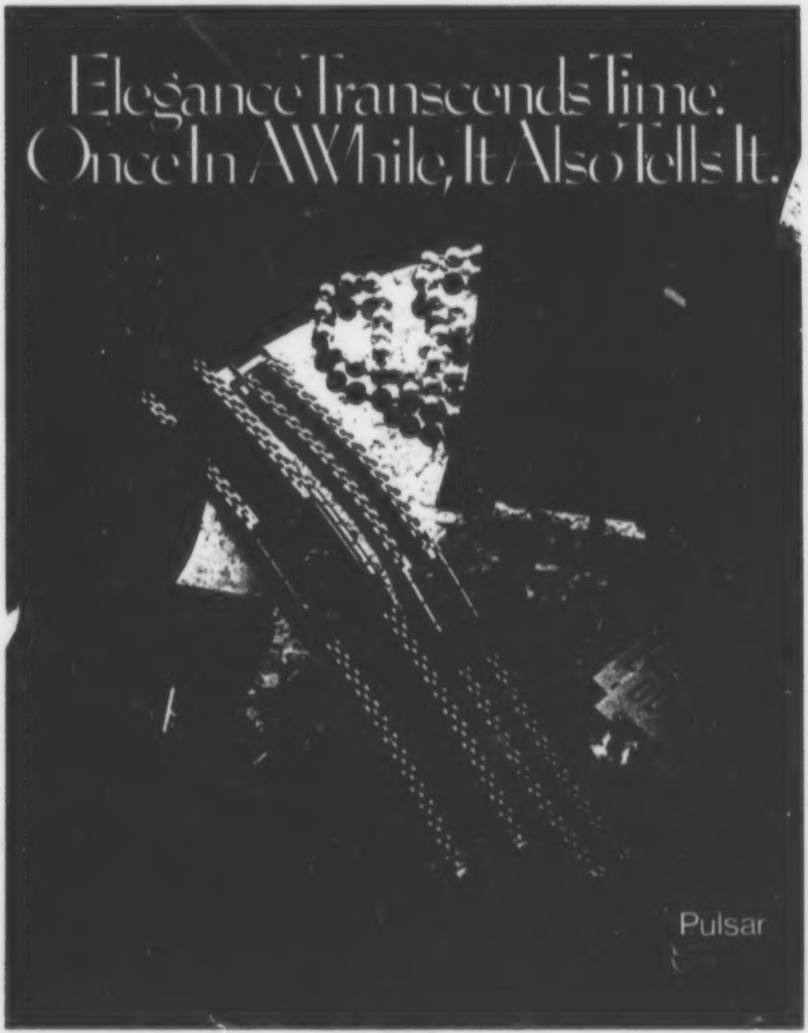

Elegance Transcends Time.
Once In A While, It Also Tells It.
Pulsar

Plate 29

**DO NOT OPEN THE EXAMINATION PAPER UNTIL
YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.**

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

ART HISTORY 3202

JUNE 1989

Value: 100 marks Time: 3 hours

Examination Number ________________

GENERAL INSTRUCTIONS

1. The examination consists of objectives and essay items, arranged in three sections as follows, and candidates are required to do **ALL** sections as directed within:

   SECTION A — Visual Media and Design — 35%
   SECTION B — Art Survey — 35%
   SECTION C — Analysis and Comparison — 30%

2. Note that some parts of the examination will require reference to art plates contained in the Booklet of Art Plates provided. Specific references will be indicated at the beginning of sections, where applicable.

3. Answers are to be written in this booklet. Do not use allotted answer spaces for rough drafts which you may wish to discard.

4. Be sure to write your Examination Number in the space provided above.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the chief Supervisor prior to the first session, and have been posted for further reference near the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

— Materials required
— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

Value

SECTION A

Visual Media and Design

Do **ALL** items in this section as directed in each. Total value: 35%.

10 1. **Reference:** Plates 1-11

Do **ALL** parts of this item by choosing the one correct plate to match each statement and writing the plate number in the blank at the right of the statement. Do not use any plate more than once.

(a) An artwork in which subject matter is emphasized by its vertical axis ....(a) ________

(b) A minimal sculpture which immediately engages the viewer in the dynamics of balance ...(b) ________

(c) A noncollectable conceptual artwork ....(c) ________

(d) An artwork which relies on repetition of a contemporary cultural object for effect..............(d) ________

(e) An example of an assemblage ....(e) ________

(f) A work whose image is composed of flattened space and angular planes ....(f) ________

(g) A work in which function greatly influences form ....(g) ________

(h) A work which relies on contrast between solid mass and empty space ....(h) ________

(i) An artwork in which the artist has created through repeated shapes a rhythm that progresses across the picture plane ....(i) ________

(j) An image that explores the visual excitement of motion ....(j) ________

10 2. Write the letter of the correct response for each of the following in the blank at the right.

(a) What term refers to a colour scheme limited to variations of one hue? ....(a) ________
- (A) polychromatic
- (B) primary
- (C) monochromatic
- (D) complementary

(b) What term refers to the actual colour of an object? ....(b) ________
- (A) local
- (B) intermediate
- (C) additive
- (D) chiaroscuro

(c) In a painting, which texture describes the surface quality of an object? ....(c) ________
- (A) felt
- (B) actual
- (C) implied
- (D) imagined

(d) Which sculptural form is produced by building up material from a core or armature? ....(d) ________
- (A) casting
- (B) ready-made
- (C) carving
- (D) additive sculpture

(e) What term describes an event that is conceived and performed by artists usually unrehearsed and without a script? ....(e) ________
- (A) impressionism
- (B) earthwork
- (C) setback
- (D) happening

(f) What is a series of prints that is made, numbered and signed by the artist? ....(f) ________
- (A) edition
- (B) proofs
- (C) artist's proofs
- (D) etching

Value

(g) What term refers to the surface onto which paint is applied in a painting? ....(g) ___________
(A) pictorial space
(B) the ground
(C) the vehicle
(D) curtain wall

(h) What is the exclusive use of pale or light values within a given area or surface? ....(h) ___________
(A) high key
(B) low key
(C) hue
(D) tonal value

(i) What is the implied or illusionary space in an artwork as it appears to recede
backwards from the picture plane? ....(i) ___________
(A) perspective rendering
(B) actual space
(C) proportion
(D) pictorial space

(j) Which of the following terms is **NOT** applicable to the printmaking process ....(j) ___________
(A) tusche
(B) drypoint
(C) squeegee
(D) kiln

10 3. Do **ALL** of the following by writing in the blank provided for each the term defined or described by the statement.

(a) The two-dimensional surface of a picture ....(a) ____________________

(b) A colouring agent in powder form used in paints, crayons,
and chalks ....(b) ____________________

(c) The height of the viewers' eyes above the ground plane ....(c) ____________________

(d) A drawing technique in which one series of lines is laid down
across previous lines so that they cross each other ....(d) ____________________

(e) A printing technique in which the parts of the printing surface
meant to carry the ink are left raised while the remaining areas
are cut away ....(e) ____________________

(f) The tactile quality of a surface ....(f) ____________________

(g) The art of decorative handwriting ....(g) ____________________

(h) The part of the camera lens that allows light to enter and expose
the film ....(h) ____________________

(i) A sculpture technique that involves removing material from a larger
block or form ....(i) ____________________

(j) Art that incorporates actual movement as part of its composition ......(j) ____________________

5 4. Briefly define any **FIVE** of the following terms:

(a) symmetry ____

____

____

(b) optical colour mixing ____

____

____

(c) mosaic ____

____

____

Value

(d) iconography ______________________________

(e) horizon line ______________________________

(f) engraving ______________________________

(g) intermediate colour ______________________________

SECTION B

Art Survey

Do **ALL** items in this section as directed in each. Total value: 35%.

10 5. **Reference:** Plates 12-23

Identify any **TEN** of the plates numbered 12-23 by giving for each the name of the artist and the name of the style or period to which it belongs.

	Plate No.	**Artist**	**Style or Period**
(a)	12		
(b)	13		
(c)	14		
(d)	15		
(e)	16		
(f)	17		
(g)	18		
(h)	19		
(i)	20		
(j)	21		
(k)	22		
(l)	23		

5 6. **Reference:** Plates 24-28

Write in the blank provided for each the number of the correct plate to match each of the following statements:

(a) The oldest work ....(a) __________

(b) The most recent work ....(b) __________

(c) An example of classic architecture ....(c) __________

Value

(d) An example of the International style in architecture ....(d) ________

(e) Significant features of this piece of architecture include the relationship between the environment and the architecture and the bold use of cantilevers ....(e) ________

7. Do any **FOUR** of parts (a) to (e).

5 (a) Architecture, like sculpture, is an expressive three-dimensional form. Compare the two for similarities and differences.

5 (b) Leonardo da Vinci in the 15th Century described the camera obscura as a tool to create representational images of the world. Photographs in the 19th century were seen by some artists, such as Delacroix, as a tool to work out compositions for paintings. Discuss how the role of photography has changed from a tool of painters to an artform in its own right.

Value

5 (c) Our concept of art is changing. The 20th Century has seen artists expressively questioning and pushing back what we understood were the traditional limits of art. Discuss how the Impressionists and the Abstract Expressionists contributed to this changing concept.

5 (d) Briefly identify the contribution to art made by any **TWO** of the following artists. Include in your answer the art period or style for which each is known.

(i) Moshe Safdie
(ii) Jackson Pollock
(iii) Rembrandt

Value

5 (e) With reference to **TWO** specific art works, one from each style, discuss the differences between Representational and Abstract Art.

SECTION C

Analysis and Comparison

Do **ALL** items in this section as directed in each. Total value: 30%

8. **Reference:** Plates 29-36.

Consider the pairs of artworks indicated below. Compare the works in each of *any* **THREE** pairs in terms of content and form. Include in your answer the medium used, the relationship of the medium to the meaning of the work, the visual components, and the social and/or political context of the work.

5 (a) Plates 29 and 30 ____________________

Value

5 (b) Plates 31 and 32 ____________________

5 (c) Plates 33 and 34 ____________________

5 (d) Plates 35 and 36 ____________________

Value

9. **Reference:** Plate 11

Do **ALL** parts of this item in reference to the painting, "Maligne Lake, Jasper Park" (1924), by Lawren Harris.

5 (a) Identify the important visual elements (elements of design) evident in this painting.

5 (b) Describe the principles of design used by the artist in this work.

5 (c) Describe the mood/atmosphere of this work of art. How has the artist used the elements and principles of design to create this mood/atmosphere?

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

ART HISTORY 3202

JUNE 1989

ART PLATES BOOKLET

This booklet is to be distributed to candidates together with the Art History 3202 examination paper before the start of the examination.

Candidates will be directed in individual items to refer to the Art Plates contained in this booklet. Plates are numbered from 1 to 37.

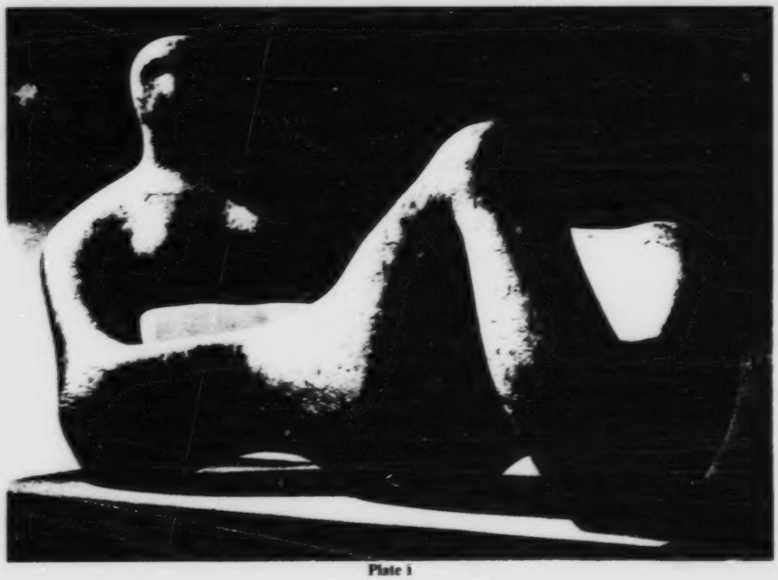


Plate 1

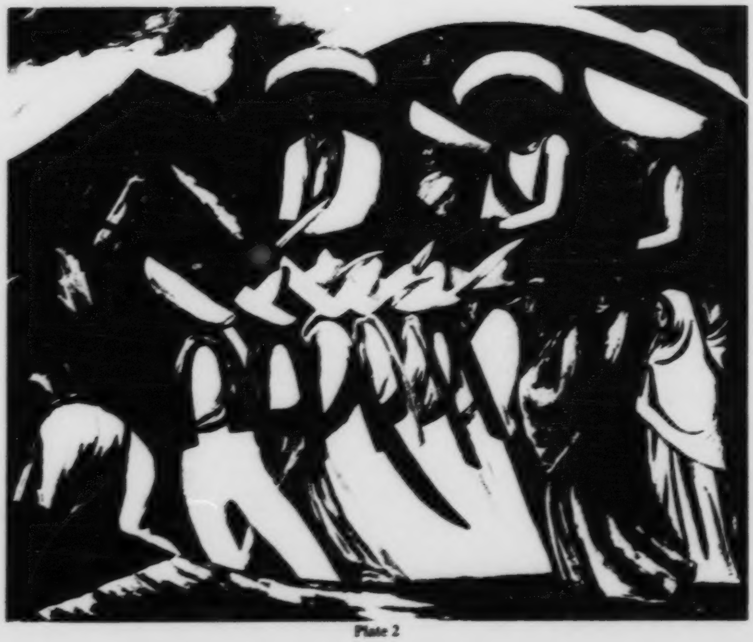


Plate 2

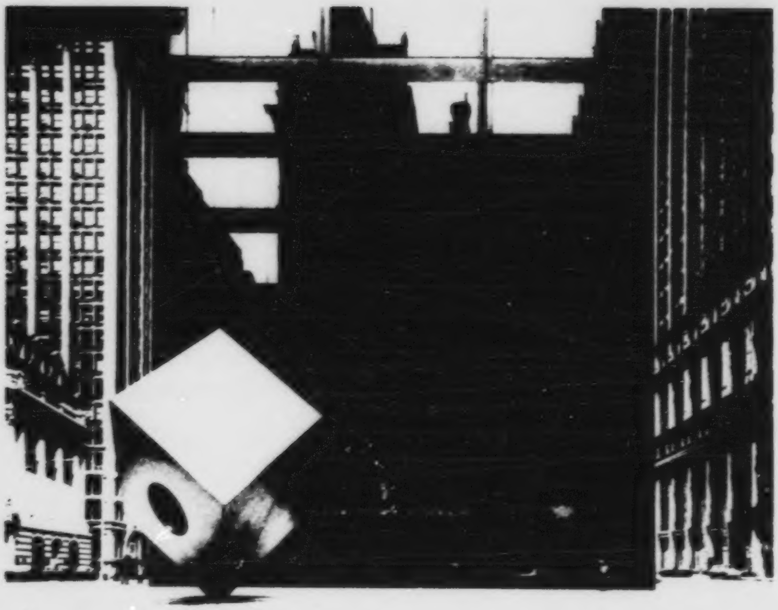


Plate 3

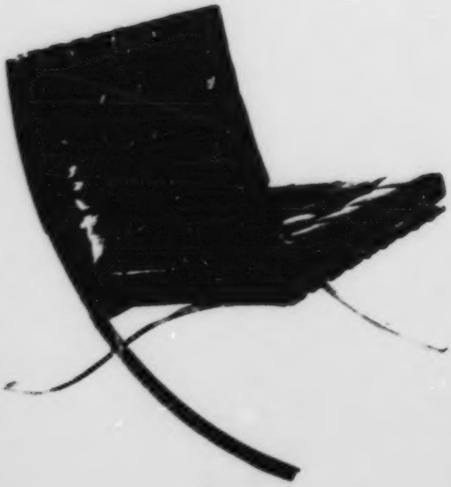


Plate 4

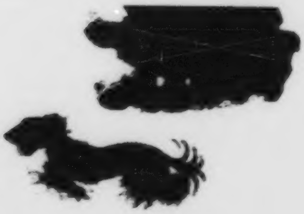


Plate 5

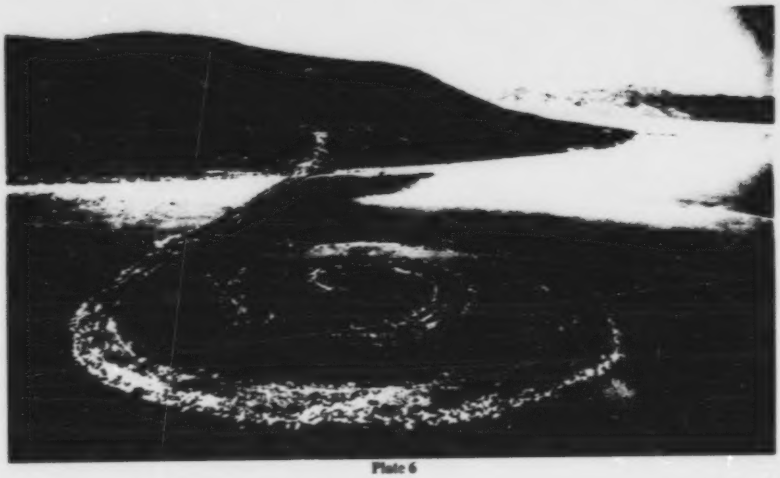


Plate 6

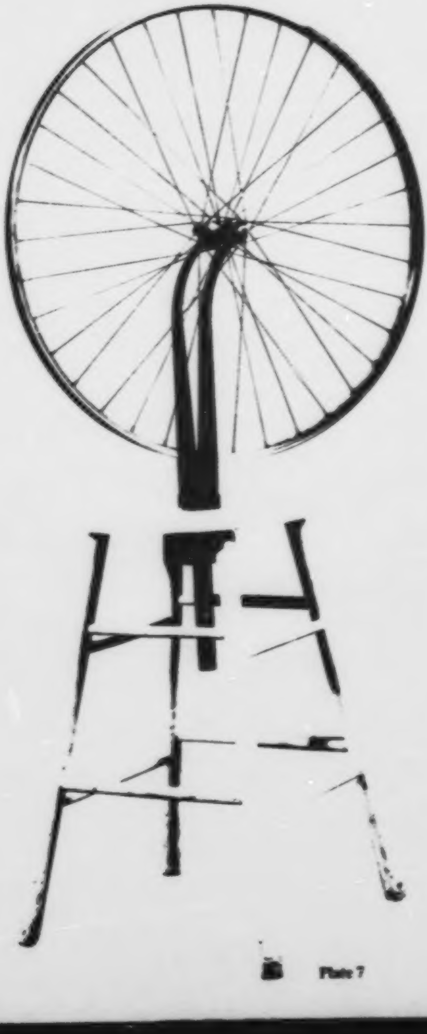
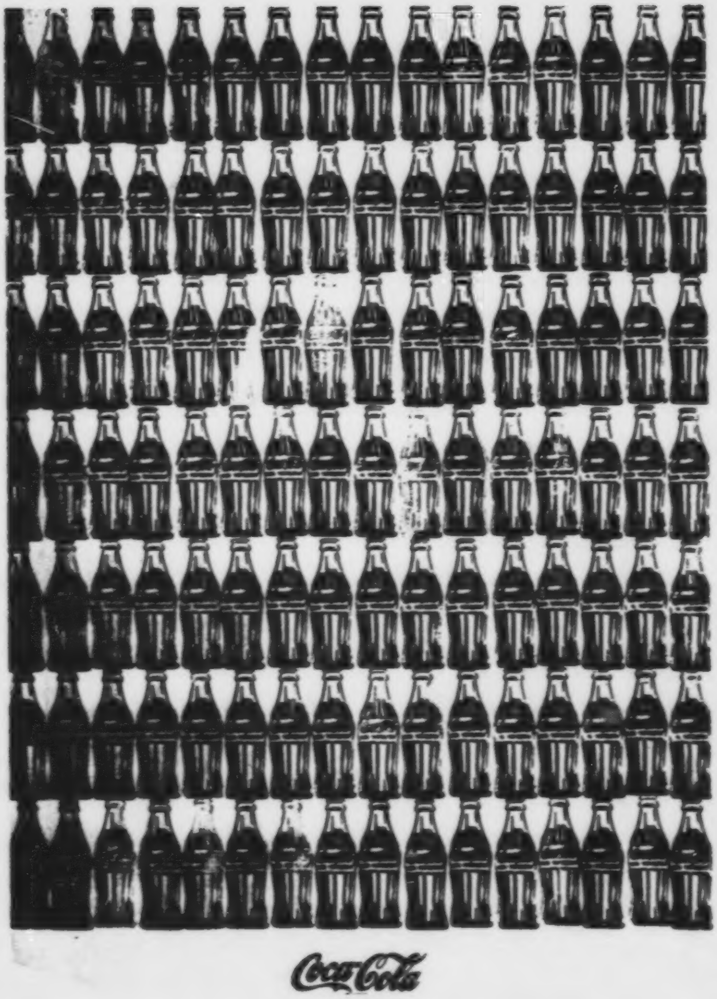


Plate 7



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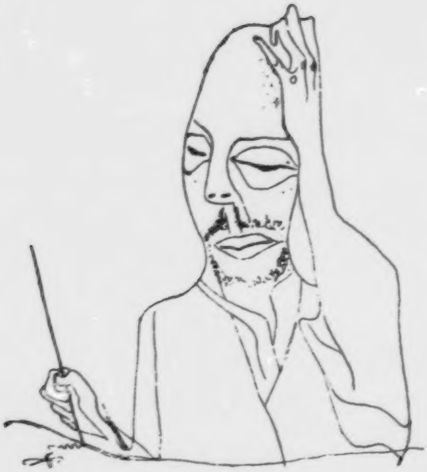


Plate 9

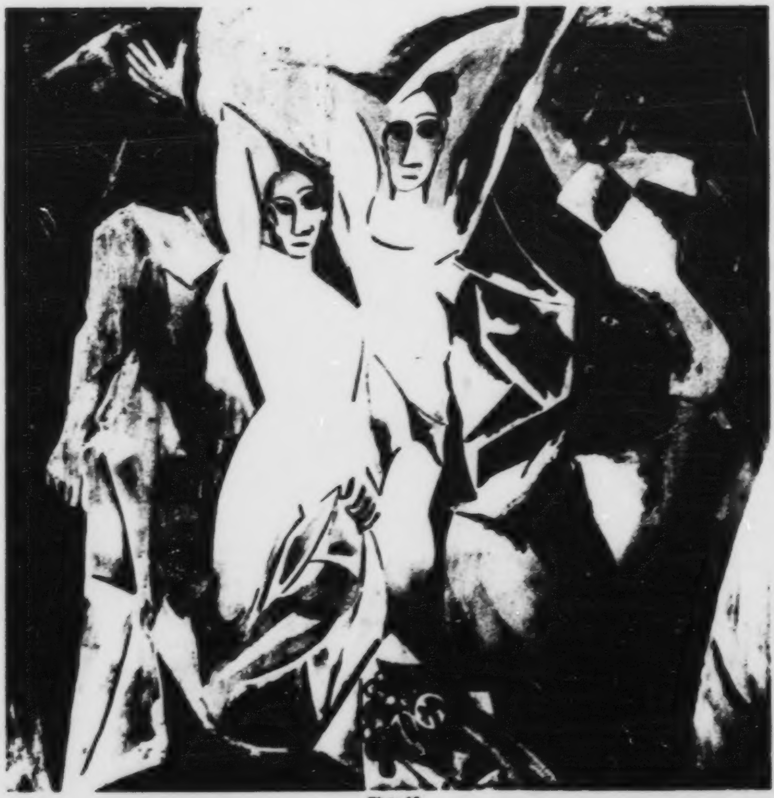


Plate 10

Plate 11

Plate 12

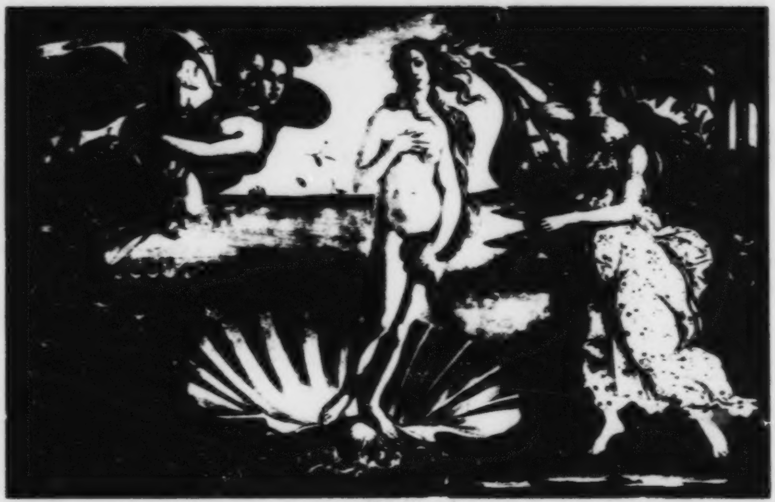


Plate 13

Plate 14

Plate 15

Plate 16

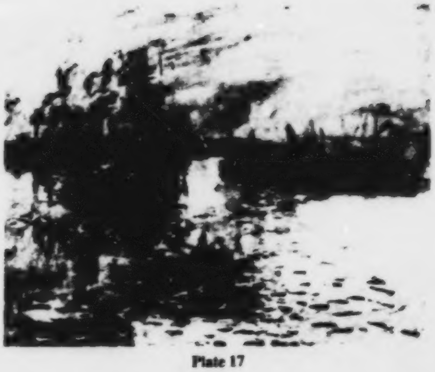


Plate 17

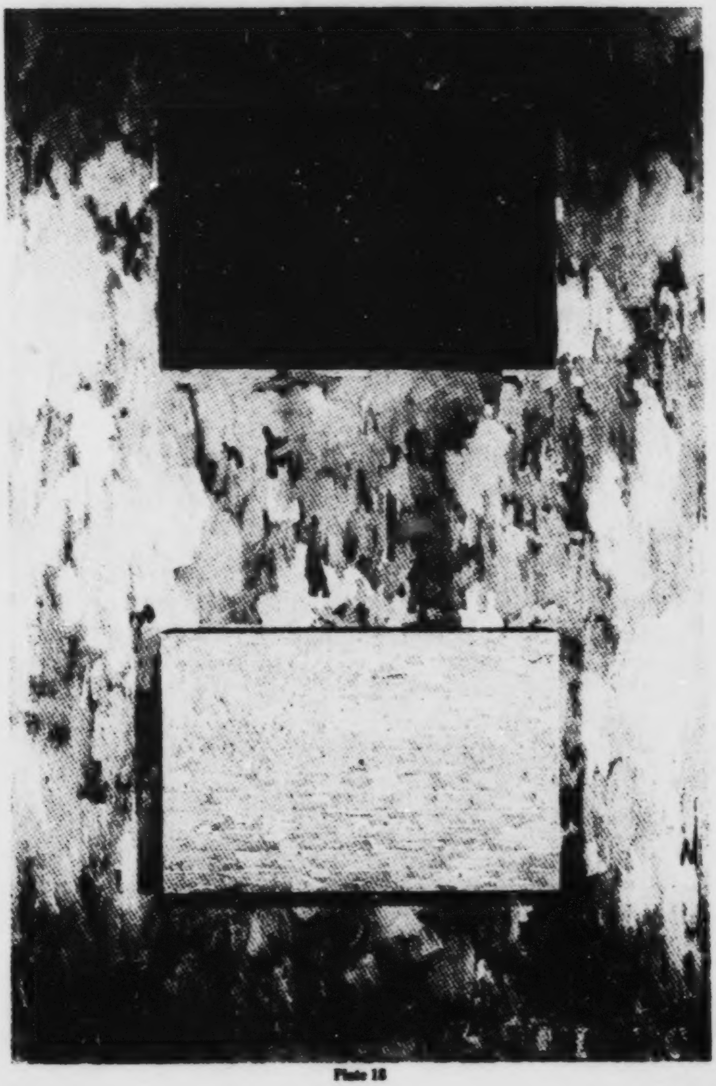


Plate 18

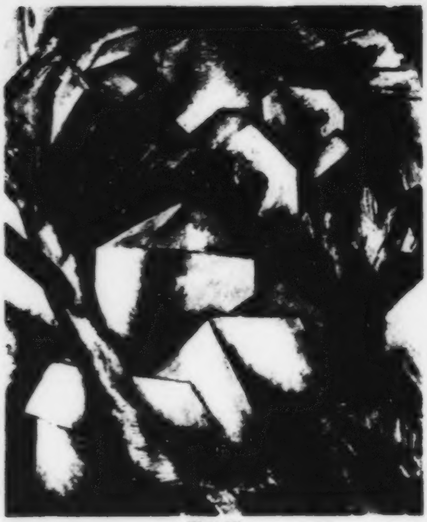


Plate 19

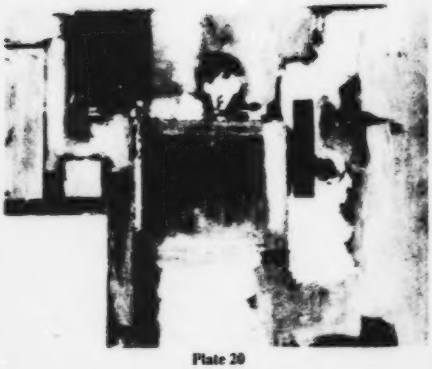


Plate 20

Plate 21

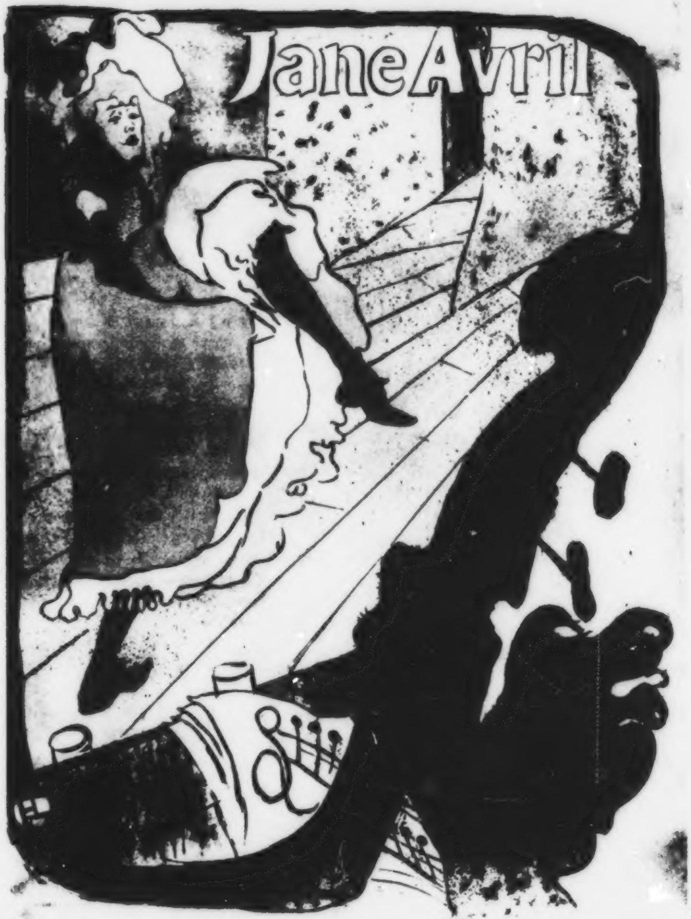


Plate 22

Plate 23

Plate 24

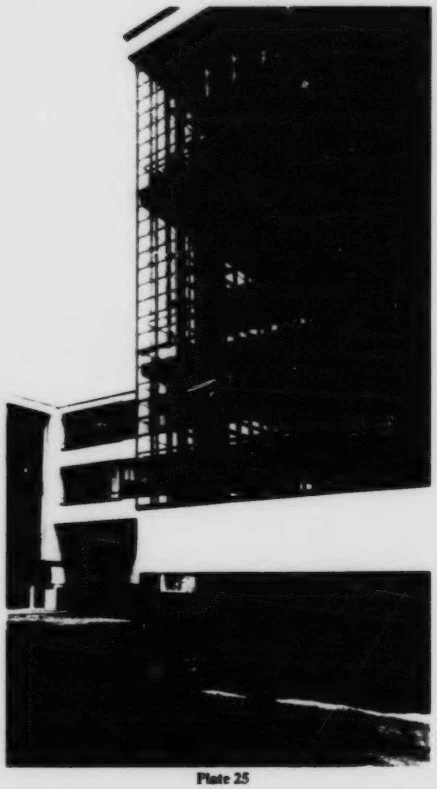


Plate 25

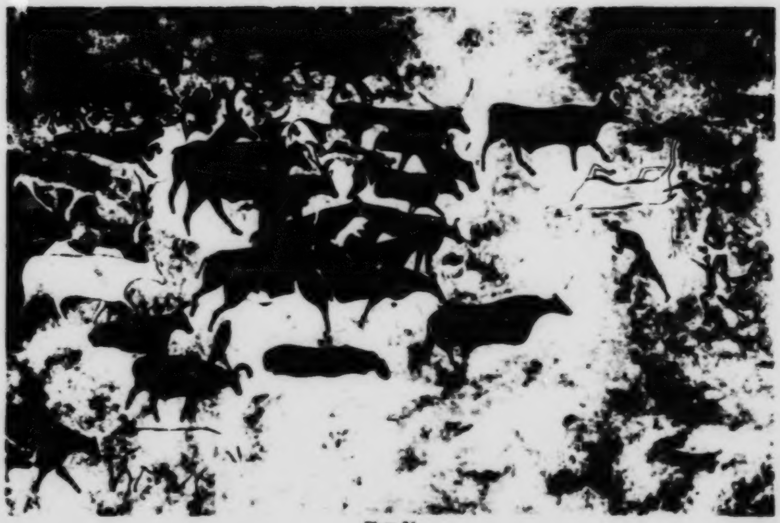
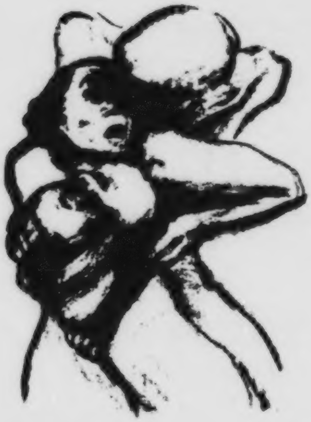


Plate 26

Plate 27

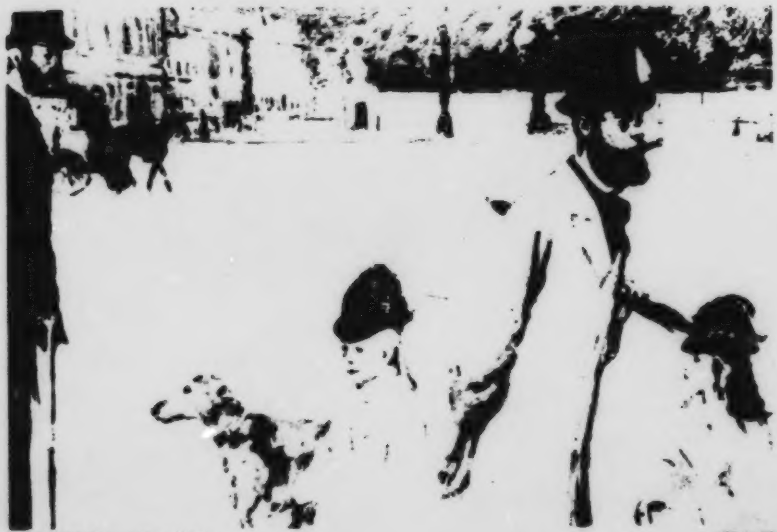
Plate 28



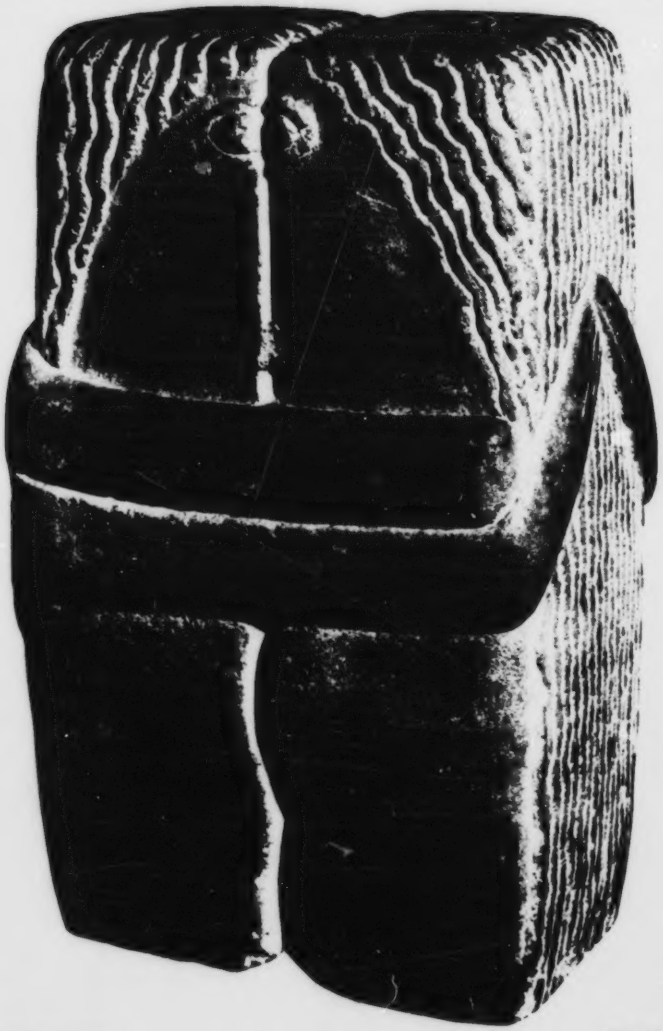
Death Seizing a Woman, 1935 **Plate 29**
Käthe Kollwitz

Hunger in India, 1951 **Plate 30**
Werner Bischof

Shopping on a Sunday Morning, 1958 **Plate 31**
Henri Cartier-Bresson

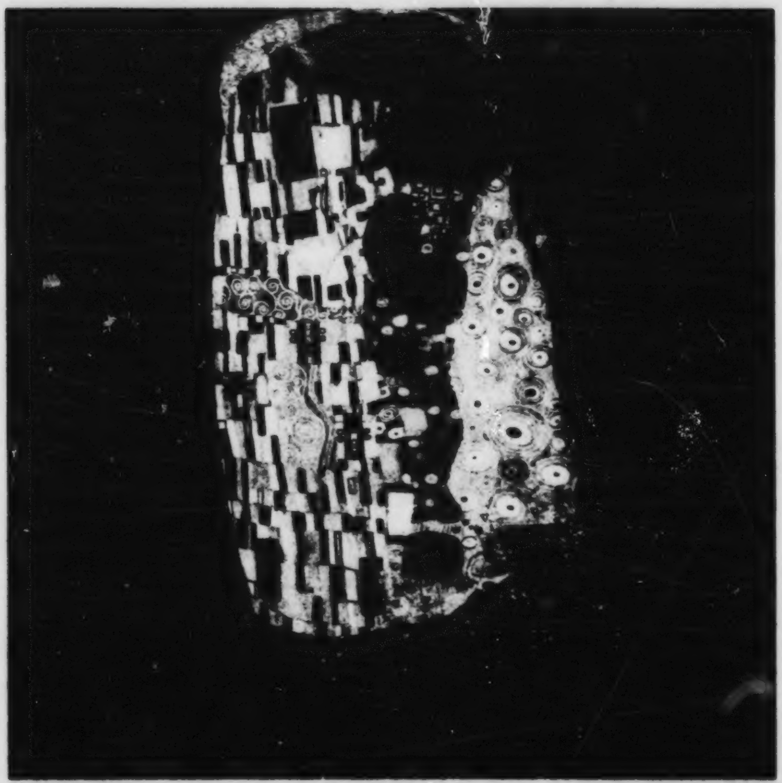


Place de la Concorde, c. 1873 **Plate 32**
Edgar Degas



The Kiss, 1908
Constantin Brancusi

Plate 33



The Kiss, 1908 Plate 34
Gustav Klimt

Luncheon of the Boating Party, 1881 Plate 35
Pierre-Auguste Renoir

Sunday Afternoon on the Island of La Grande Jatte, 1884-86
Georges Seurat

Plate 36

Maligne Lake, Jasper Park, 1924
Lawren Harris

Plate 37

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

LANGUAGE 3101

JUNE 1989

Value: 100 marks

Time: 3 hours

GENERAL INSTRUCTIONS

1. The examination consists of essay items only, arranged in two sections with requirements as follows:

   SECTION A — Analysis — Do the FOUR items — 40%
   SECTION B — Writing — Do any TWO items — 60%

2. Answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

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— Use of handheld calculator
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— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

Value

SECTION A

Analysis

Read the prose selection below, and do the **FOUR** items that follow it. You may wish to read the items first and the selection second. Total value: 40%.

SUPER-STRUGGLE

(An excerpt from **The Third Wave**)

by
Alvin Toffler

1 A new civilization is emerging in our lives, and blind men everywhere are trying to suppress it. This new civilization brings with it new family styles; changed ways of working, loving, and living; a new economy; new political conflicts; and beyond all this an altered consciousness as well. Pieces of this new civilization exist today. Millions are already attuning their lives to the rhythms of tomorrow. Others, terrified of the future, are engaged in a desperate, futile flight into the past and are trying to restore the dying world that gave them birth.

2 The dawn of this new civilization is the single most explosive fact of our lifetimes.

3 Until now the human race has undergone two great waves of change, each one largely obliterating earlier cultures or civilizations and replacing them with ways of life inconceivable to those who came before. The First Wave of change — the agricultural revolution — took thousands of years to play itself out. The Second Wave — the rise of industrial civilization — took a mere three hundred years. Today history is even more accelerative, and it is likely that the Third Wave will sweep across history and complete itself in a few decades. We, who happen to share the planet at this explosive moment, will therefore feel the full impact of the Third Wave in our own lifetimes.

4 Tearing our families apart, rocking our economy, paralizing our political systems, shattering our values, the Third Wave affects everyone. It challenges all the old power relationships, the privileges and prerogatives of the endangered elites of today, and provides the backdrop against which the key power struggles of tomorrow will be fought.

5 The Third Wave brings with it a genuinely new way of life based on diversified, renewable energy sources; on methods of production that make most factory assembly lines obsolete; on new, non-nuclear families; on a novel institution that might be called the "electronic cottage"; and on radically changed schools and corporations of the future. The emergent civilization writes a new code of behaviour for us and carries us beyond standardization, synchronization, and centralization, beyond the concentration of energy, money, and power . . . It requires governments that are simpler, more effective, yet more democratic than any we know today. It is a civilization with its own distinctive world outlook, its own ways of dealing with time, space, logic, and causality.

---

6 1. (a) What was the author's purpose in writing this passage? Support your answer with **two** specific references.

4 (b) What metaphor is most significant to the writer's purpose? Why is this metaphor appropriate?

2 2. (a) As a type of writing, this selection is mainly expository. Name **two** characteristics of expository writing.

4 (b) Show, with examples, how these two characteristics are present in the selection.

4 (c) What does the author gain by delaying his explanation of the Wave Theory until the third paragraph?

4 3. (a) Explain why the author has written paragraph two as one sentence.

6 (b) The writer makes extensive use of parallel structure. Select a sentence which contains parallel structure, clearly identify the parallel items, and comment briefly on the effectiveness of such parallelism.

Value

10 4. Explain the meanings of **five** of the following words and phrases, and show why they are examples of effective diction in their contexts in the passage.

(a)	Super-Struggle	(title)
(b)	blind men	(paragraph 1)
(c)	futile flight	(paragraph 1)
(d)	obliterating	(paragraph 3)
(e)	Today history is even more accelerative.	(paragraph 3)
(f)	explosive moment	(paragraph 3)

SECTION B

Writing

Do any **TWO** items in this section. Each item presents a topic on which you are to do an original piece of writing. Be sure to use the characteristics of the type of writing called for in each item. Your writing will be evaluated on the basis of both content and form, so it is important that you exercise care in selecting your topic, and in using appropriate mechanics. Total value: 60%.

30 6. Exposition is writing that explains. Write an **expository** essay of 250-300 words on **ONE** of the following topics. Use the method of development suggested for the topic.

Our Troubled World (Illustration)
The Importance of Confidence (Reasons)
Life is a One-Way Street (Analogy)
A True Friend (Definition)
The Formula for a Successful Soap Opera (Analysis)
Graduation is Like Leaving a Safe Harbour (Analogy)
Books — A Means of Armchair Travel (Illustration)
An Unhappy Life (Cause and Effect)

30 7. Good narration involves more than a list of events. Character, action, and an ordered sequence of events are essential. Using **ONE** of the following topics, construct a **narrative** of 250-300 words that contains the essentials of narration.

My First Lesson (your choice, e.g., Music, Skiing)
My Latest Experience with Dieting
An Experience I Will Always Cherish
Feeding the Baby
Busting Out!
A Family Disagreement
Late Night Terror
I Make a Shocking Discovery

30 8. Effective description must contain enough detail to clearly show the subject as well as enough variety to hold the attention of the reader. Choose **ONE** of the following and write a **descriptive** passage of 250-300 words. Develop a clear point of view, and consider a method of description appropriate to your topic.

The Iceberg
A Hospital Ward
The Brat
Monday Morning
In the Meadow
The Monster Within
The All-Around Student
The Junkyard

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

BUSINESS ENGLISH 3102

JUNE 1989

Value: 100 marks

Time: 2 hours

GENERAL INSTRUCTIONS

1. The examination consists of five essay items of one or more parts each, and candidates are required to do **all** items as directed in each.
2. Answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the chief Supervisor prior to the first session, and have been posted for further reference near the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

— Materials required
— Materials not permitted
— Use of handheld calculator
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— Use of unauthorized means, and penalties

Value

10 1. (a) Improve the following sentences by correcting any errors in capitalization, grammar, punctuation, spelling and usage:

(i) Happily, Tammy put the Indian belt around her waste.

(ii) There is a town called Stonewall near Winnipeg Manitoba.

(iii) The students and their golf instructor discusses various putters.

(iv) The little boy showed us his lose tooth.

(v) The doctor is mr. Tom O'Grady.

(vi) Either my aunts or my mother agree to buy this painting.

(vii) The plural of box is boxs.

(viii) In December my niece, will be four years old.

(ix) Torpedos are carried on submarines.

(x) Problems of Democracy is a specific course in Social studies.

10 (b) Show that you understand the meaning of each word in the following pairs by writing a sentence for each word. You are required to use all ten words, and to phrase your sentences so that the meanings are clear.

(1) advice, advise

(2) decent, descent

(3) effect, affect

(4) straight, strait

(5) waver, waiver

12 2. (a) Explain the roles of the chairperson and the secretary in a formal meeting situation.

8 (b) **EITHER**

Explain what is meant by **two** of the following terms as they are used in a formal meeting:

(i) proposal

(ii) motion

(iii) resolution

OR

The routes along which communication flows are the following: formal, informal, grapevine, bypassing. Explain **two** of these terms using an example in each case to reinforce your explanation.

3. Do **ONE** part only - either (a) or (b).

16 (a) The interview is a very important part of a job search.

(i) List at least **eight** points that one should remember when preparing to use one's communication skills in an interview.

4 (ii) Describe **two** steps one could take to follow up an interview.

20 (b) Communication breakdown can occur and often does. To avoid this breakdown and to try to be effective communicators, people use different techniques. List **five** good techniques one can follow in order to be a better communicator in each of the following situations:

(i) as a sender

(ii) as a receiver

Value

20 4. Do **ONE** part only - either (a) or (b).

(a) Your mother often asks you to sharpen kitchen knives. You recently purchased an automatic knife sharpener from "Never-Go-Dull", C/O Station CUTT, Box 101, St. John's, Nfld., A0B 9O9. Since its installation it has repeatedly taken the cutting edge off all knives you have attempted to sharpen. This has been a constant source of frustration and embarrassment to you, not to mention the cost of buying kitchen knives to replace those your automatic knife sharpener has ruined. Using **either** the closed fully-blocked **or** closed semi-blocked format, write a letter of complaint. Draw and address a suitable envelope.

20 (b) Assume that you are Mr. (Mrs.) John Doe. Write to the Canadian Cancer Society, 200 Melrose Ave., Ottawa, Ontario, K1Y 4K7, asking for information on the relationship between smoking and lung cancer. Your letter need not be very long, but it should explain why you want the information and what you intend to do with it. (For example, you may be a student doing some research on lung cancer.) Include any other information you feel is necessary to make your letter complete. Use one of the acceptable formats for writing business letters, and draw and address a suitable envelope.

20 5. Do **ONE** part only - either (a) or (b).

(a) As Student Council President, write a memo to the students reminding them of the importance of study, of participation in school activities, and of proper care of classroom facilities. Remember to give careful attention in your memo to format, content, and style.

20 (b) Read the following selection carefully, and then in approximately 50 words, write a summary of the article.

> Suppose at the beginning of your business career you find yourself a stranger in a strange place dependent upon new acquaintances and friendships for recreation, pleasure and success. If you can not add seven and six and make it on the instant, thirteen, you will not find yourself in demand as a bookkeeper or cashier; but in general gatherings of all sorts and kinds you can make yourself useful and agreeable if you speak good English. If not, there is no help for you. By their speech ye shall know them! You can buy a thousand dollars' worth of fine raiment, get a permanent wave, or a dinner coat (according to your sex), and go out into the world; but the moment you open your lips your words display to the discriminating ear your birth, your upbringing, the life of your household, your social position, your education and your accustomed habit of conversation. Nobody in polite (or even in impolite) society is likely to ask you to name the kings of England or the presidents of the United States in succession, or to discuss the perplexities of the income tax. Some knowledge of what is going on in the world is decidedly necessary but, even so, that is of comparatively little use if you can not express your ideas with ordinary ease and fluency.
>
> — Kate Douglas Wiggin (adapted)

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

ADVANCED WRITING 3103

PART II

JUNE 1989

Value: 60 marks

Time: 2 hours

GENERAL INSTRUCTIONS

1. Part I of this examination has been submitted previously in the form of a student portfolio.

2. This paper contains Part II only of the examination, and consists of two essay items, as follows:

   ITEM #1 — Analysis (20%)
   ITEM #2 — Writing (40%)

3. Candidates are required to **BOTH** items as directed within.

4. Answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

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Value

1. **Analysis**

Read the poem, "Auto Wreck", and do part (a) and any two of parts (b), (c), and (d), following it — **THREE** parts in all.

AUTO WRECK
by
Karl Shapiro

Its quick soft silver bell beating, beating
And down the dark one ruby flare
Pulsing out red light like an artery,
The ambulance at top speed floating down
Past beacons and illuminated clocks
Wings in a heavy curve, dips down,
And brakes speed, entering the crowd.
The doors leap open, emptying light;
Stretchers are laid out, the mangled lifted
And stowed into the little hospital.
Then the bell, breaking the hush, tolls once,
And the ambulance with its terrible cargo
Rocking, slightly rocking, moves away,
As the doors, an afterthought, are closed.

We are deranged, walking among the cops
Who sweep glass and are large and composed.
One is still making notes under the light.
One with a bucket douches ponds of blood
Into the street and gutter.
One hangs lanterns on the wrecks that cling,
Empty husks of locusts, to iron poles.

Our throats were tight as tourniquets,
Our feet were bound with splints, but now,
Like convalescents intimate and gauche,*
We speak through sickly smiles and warn
With the stubborn saw of common sense,
The grim joke and the banal resolution.
The traffic moves around with care,
But we remain, touching a wound
That opens to our richest horror.
Already old, the question Who shall die?
Becomes unspoken Who is innocent?
For death in war is done by hands;
Suicide has cause and stillbirth, logic;
And cancer, simple as a flower, blooms.
But this invites the occult mind,
Cancels our physics with a sneer,
And spatters all we knew of denouement
Across the expedient and wicked stones.

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* awkward

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8 (a) Show, making suitable references to the poem, that the poet has made effective use of imagery to present his ideas. Be sure to explain the significance of at least one figurative image.

6 (b) In lines 33 to 39, the poet makes use of contrast. Explain the contrast, and tell how it suits the writer's purpose.

6 (c) Shapiro makes use of repetition in each stanza. Find **TWO** examples, and comment briefly on the appropriateness of each.

6 (d) Name **THREE** features of "Auto Wreck" which characterize it as free verse poetry. Write a one-sentence comment on each characteristic.

Value

40 2. **Writing**

Do **ONE** part only of this item: either (a) or (b) or (c).

(a) Poets often find a new significance in something familiar, in something ordinary and commonplace. They have a way of taking the simple things in life — the old dog in front of the fireplace, a childhood toy, a rocking chair — and pointing out their beauty and their deeper meaning. Choose something from your own life which has its own simple beauty and meaning and write either a traditional or a free verse **poem** which points this out to your readers. (Your poem must be original to this examination room setting; **NOT** a poem you have already included in your portfolio.)

(b) Many **short story** writers create realistic characters by revealing the characters' personalities indirectly through action, speech, and thought. Select a character, who has either an admirable personality or a disagreeable one, and create an incident or scene in which your character reveals his/her traits indirectly.

(c) A **stage play** must have a workable set: the playwright must keep in mind the dimensions of the stage, the demands of the performers, and his instructions to the performers as to how to use his set. Write a set description and the opening lines of dialogue for a play which is going to take place in either the central office of a large high school or the kitchen of an old-time Newfoundland home. Be sure in your set description and your opening lines that you position well the set and properties on the stage and that your instructions to the performers include their positions and movements.

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

THEMATIC LITERATURE 3201

JUNE 1989

Value: 100 marks

Time: 3 hours

GENERAL INSTRUCTIONS

1. The examination consists of essay items only, arranged in two sections with requirements as follows:

   SECTION A — Thematic Study — Do ALL items — 50%
   SECTION B — Fiction, Non Fiction, Drama — Do item number 4 and two others — 50%

2. Write as clearly and effectively as you can in the style or form directed in each item. Bear in mind that care in the use of mechanics, organization and presentation will contribute to the overall quality of responses. Also, you are advised to write concisely. Generally, item values should be used to suggest maximum lengths for answers — about one page for 10 marks and proportionately more or less than a page for other than 10 marks.

3. Answers are to be written in the answer booklet provided.

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Value

SECTION A

Thematic Study

This section contains two short selections: one short story and one poem. Read both selections carefully and do the **THREE** items following them. Total value: 50%.

Selection #1

THE FAMILY WHICH DWELT APART
by
E. B. White

On a small, remote island in the lower reaches of Barnetuck Bay there lived a family of fisherfolk by the name of Pruitt. There were seven of them, and they were the sole inhabitants of the place. They subsisted on canned corn, canned tomatoes, pressed duck, whole-wheat bread, terrapin, Rice Krispies, crabs, cheese, queen olives, and homemade wild-grape preserve. Once in a while Pa Pruitt made some whisky and they all had a drink.

They liked the island and lived there from choice. In winter, when there wasn't much doing, they slept the clock around, like so many bears. In summer they dug clams and set off a few pinwheels and salutes on July 4th. No case of acute appendicitis had ever been known in the Pruitt household, and when a Pruitt had a pain in his side he never noticed whether it was the right side or the left side, but just hoped it would go away, and it did.

One very severe winter Barnetuck Bay froze over and the Pruitt family was marooned. They couldn't get to the mainland by boat because the ice was too thick, and they couldn't walk ashore because the ice was too treacherous. But inasmuch as no Pruitt had anything to go ashore for, except mail (which was entirely second class), the freeze-up didn't make any difference. They stayed indoors, kept warm, and ate well, and when there was nothing better to do, they played crokinole.[1] The winter would have passed quietly enough had not someone on the mainland remembered that the Pruitts were out there in the frozen bay. The word got passed around the country and finally reached the Superintendent of State Police, who immediately notified Pathé News[2] and the United States Army. The Army got there first, with three bombing planes from Langley Field, which flew low over the island and dropped packages of dried apricots and bouillon cubes, which the Pruitts didn't like much. The newsreel plane, smaller than the bombers and equipped with skis, arrived next and landed on a snow-covered field on the north end of the island. Meanwhile, Major Bulk, head of the state troopers, acting on a tip that one of the Pruitt children had appendicitis, arranged for a dog team to be sent by plane from Laconia, New Hampshire, and also dispatched a squad of troopers to attempt a crossing of the bay. Snow began falling at sundown, and during the night three of the rescuers lost their lives about half a mile from shore, trying to jump from one ice cake to another.

The plane carrying the sled dogs was over southern New England when ice began forming on its wings. As the pilot circled for a forced landing, a large meat bone which one of the dogs had brought along got wedged in the socket of the main control stick, and the plane went into a steep dive and crashed against the side of a powerhouse, instantly killing the pilot and all the dogs, and fatally injuring Walter Ringstead, 7, of 3452 Garden View Avenue, Stamford, Conn.

Shortly before midnight, the news of the appendicitis reached the Pruitt house itself, when a chartered autogiro[3] from Hearst's International News Service made a landing in the storm and reporters informed Mr. Pruitt that his oldest boy, Charles, was ill and would have be taken to Baltimore for an emergency operation. Mrs. Pruitt remonstrated, but Charles said his side did hurt a little, and it ended by his leaving in the giro. Twenty minutes later another plane came in, bearing a surgeon, two trained nurses, and a man from the National Broadcasting Company, and the second Pruitt boy, Chester, underwent an exclusive appendectomy in the kitchen of the Pruitt home, over the Blue Network. This lad died, later, from eating dried apricots too soon after his illness, but Charles, the other boy, recovered after a long convalescence and returned to the island in the first warm days of spring.

He found things much changed. The house was gone, having caught fire on the third and last night of the rescue when a flare dropped by one of the departing planes lodged in a bucket of trash on the piazza. After the fire, Mr. Pruitt had apparently moved his family into the emergency shed which the radio announcers had thrown up, and there they had dwelt under rather difficult conditions until the night the entire family was wiped out by drinking a ten-per-cent solution of carbolic acid which the surgeon had left behind and which Pa had mistaken for grain alcohol.

Barnetuck Bay seemed a different place to Charles. After giving his kin decent burial, he left the island of his nativity and went to dwell on the mainland.

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[1] Crokinole - a game in which small discs are snapped toward the centre of a board.

[2] Pathé News - a news service associated with movies and presented in theatres before feature films.

[3] autogiro - helicopter-like airplane.

Selection # 2

REALIZE YOUR DREAM
by
Rita MacNeil

So you never left the small town
With your friends when things got way down,
You stood between the tall trees,
Threw all caution to the cool breeze;
And you stayed home on the island
And you watched the evening sunrise,
And you never thought of leaving
Even when the winds blew cold.

And I've seen you at the station
With your arms outstretched and waiting,
To welcome home the travellers
Who went searching after dreams;
And they never failed to mention
How your life's been one dimension,
And you smile at good intentions
Knowing well they'll never see.

For you won't forever need it,
You're found here without leaving,
It's the drifter and the dreamer
Who often fail to see;
In the heart that never wanders
Lies a peace that comes with morning—
It's knowing when the day is done
You've realized your dreams.

And you never left the old ties
When the changing winds came by,
You walked beside the old mill,
Turned your eyes upon the green hills;
And you stayed home on the island
And you watched the loved ones follow
All the roads that led them searching
After ordinary dreams.

Value

15 1. In two well written paragraphs, show clearly that you understand the experiences being described (the literal meaning) in the two selections.

2. Do any **TWO** of parts (a), (b), (c), and (d).

(a) Irony is an effective device in literature.

2 (i) Define irony.

4 (ii) Find two examples of irony in "The Family Which Dwelt Apart".

4 (iii) Show how the examples you chose make the essay less amusing than it appears.

(b) The "island" in the poem "Realize Your Dream" could be thought of as a symbol.

2 (i) Define symbol

4 (ii) Explain what the island might stand for in the poem.

4 (iii) Choose two images or word pictures which help to describe the island to us, and show how these images add to the effectiveness of the island as a symbol.

Value

10 (c) The purpose of satire is to expose through ridicule the evils or weaknesses of human nature or society. A satirist frequently uses exaggeration to make his criticism clear. Discuss satire with reference to "The Family Which Dwelt Apart".

(d) Explain the meanings of any **TWO** of the following from Selection #2.

5 (i) "And they never fail to mention
How your life's been one dimension,
And you smile at good intentions
Knowing well they'll never see."

5 (ii) "And you never left the old ties
When the changing winds came by,..."

5 (iii) "Its the drifter and the dreamer
Who often fail to see;..."

15 3. Do **ONE** only of parts (a), (b), and (c).

(a) The speaker in Rita MacNeil's poem finds comfort and peace in staying home on the island. How do you think Rita MacNeil would feel about what happened to the Pruitts? Write a letter of at least three paragraphs (250-300 words) to the editor of a newspaper expressing her feelings about the intrusion of society upon the Pruitts.

(b) Making decisions about leaving the peace and comfort of home is not easy for some people, while others find it great to get away. Discuss the advantages and disadvantages of leaving home to realize your dreams. (Your essay should be about three paragraphs totalling 250-300 words.)

(c) "It's knowing when the day is done
You've realized your dreams."

If you could see twenty or thirty years into your future, what kind of life might you be living? What dreams will you have realized? (Your essay should be at least three paragraphs totalling 250-300 words.)

SECTION B

Fiction, Non Fiction, Drama

Students are required to do **item #4** and any two other items, for a total of **THREE** from this section. Each answer must be written in essay format.

20 4. **COMPULSORY ITEM**

Do **ONE** part of this item — either (a) or (b) — with reference to the novels you have studied. The novels prescribed for this course are:

Light in the Forest
On The Beach
Lord of the Flies
Riverrun
Lost Horizon

(a) Choose a prescribed novel you have studied this year. State clearly what you feel to be one important message or theme of the novel, and refer to the novel to show how the writer develops this theme.

(b) The characters that authors create are interesting not only in themselves but also for their influence on the plot, and because they help the author to convey a message. Choose a main character from a novel you have studied this year and, by referring to the novel:

(i) Describe clearly what the character is like.

(ii) Show how the author uses that character to influence plot, or to illustrate a theme.

NOTE — You are required to do only TWO items from numbers 5, 6, and 7.

15 5. Do **ONE** only of parts (a), (b), and (c), on a Shakespearean play — i.e., on either **Macbeth** or **The Merchant of Venice.**

(a) "Macbeth has not been a scoundrel all of his life. Instead, he is a **good** man who has gone wrong. This is the real tragedy." Discuss this statement by focusing on Macbeth's good qualities, some of which are used for wrong purposes.

Value

(b) In **The Merchant of Venice**, Shakespeare makes us feel sorry for Shylock despite all the harm that Shylock has done and attempted to do. How does Shakespeare manage to preserve our sympathy for Shylock?

(c) Shakespeare not only presents the actions of characters but also helps us to understand what motivates characters to act in the way that they do. Discuss the factors which motivate **either** Macbeth **or** Shylock to behave in the way that he does.

6. Do **ONE** part only of this item — either (a) or (b) — with reference to non-Shakespearean plays you have studied.

The following plays from **Dramatic Literature** were prescribed for study:

Antigone
An Enemy of the People
The Judgement of Indra
The Dwarf Trees
Riders to the Sea
The Boor
The Intruder
The Romancers
The Member of the Wedding

(a) Conflict is an essential element of drama. Choose one of the plays listed above and do the following in reference to it. Be sure to use specific references to the play of your choice.

3 (i) State a major conflict in the play.

8 (ii) Discuss fully the development of that conflict.

4 (iii) Show how the conflict is resolved or why it is not resolved.

15 (b) Choose a play you have studied this year and show how the author effectively uses one of the following to make his theme or message clear: setting, irony, symbolism, a technique of your choice.

15 7. Do **ONE** part only of this item — either (a), (b) or (c).

(a) "Hubbard's Expedition was a tale of stupidity, courage and death." Discuss this statement with specific reference to **The Lure of the Labrador Wild.**

(b) Discuss fully what you feel to be the greatest strengths and most admirable qualities of Captain Bob Bartlett, and show how these strengths and qualities are illustrated in his actions.

(c) One of the major themes explored in Thematic Literature 3201 is man and the unknown. In a well-structured essay, show how **EITHER Bartlett, The Great Explorer OR The Lure of the Labrador Wild** fits into the theme of man's relationship to the unknown. Use specific references to the text to support your discussion.

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

LITERARY HERITAGE 3202

JUNE 1989

Value: 100 marks

Time: 3 hours

GENERAL INSTRUCTIONS

1. The examination consists of essay items only, arranged in two sections with requirements as follows:

   SECTION A — 25 %
   Candidates are required to do FOUR items with reference to a short selection provided on the paper.
   SECTION B — 75%
   Candidates are required to do THREE items based on the modes of their choice.

2. Note that supporting references to appropriate prescribed texts are required in all responses in Section B. Follow Section B directions carefully as responses lacking the required references will be penalized.

3. Answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

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- Use of unauthorized means, and penalties

Value

SECTION A

Read the following selection and do **ALL** items in this section following it. Total value: 25%.

ADVICE TO YOUTH
by
Mark Twain

Being told I would be expected to talk here, I inquired what sort of a talk I ought to make. They said it should be something suitable to youth — something didactic, instructive, or something in the nature of good advice. Very well. I have a few things in my mind which I have often longed to say for the instruction of the young; for it is in one's tender early years that such things will best take root and be most enduring and most valuable. First, then, I will say to you, my young friends — and I say it beseechingly, urgingly —

Always obey your parents, when they are present. This is the best policy in the long run, because if you don't they will make you. Most parents think they know better than you do, and you can generally make more by humoring that superstition than you can by acting on your own better judgment.

Be respectful to your superiors, if you have any, also to strangers, and sometimes to others. If a person offends you, and you are in doubt as to whether it was intentional or not, do not resort to extreme measures; simply watch your chance and hit him with a brick. That will be sufficient. If you shall find that he had not intended any offense, come out frankly and confess yourself in the wrong when you struck him; acknowledge it like a man and say you didn't mean to. Yes, always avoid violence; in this age of charity and kindliness, the time has gone by for such things. Leave dynamite to the low and unrefined.

Go to bed early, get up early — this is wise. Some authorities say get up with the sun; some others say get up with one thing, some with another. But a lark is really the best thing to get up with. It gives you a splendid reputation with everybody to know that you get up with the lark; and if you get the right kind of a lark, and work at him right, you can easily train him to get up at half past nine, every time — it is no trick at all.

Now as to the matter of lying. You want to be very careful about lying; otherwise you are nearly sure to get caught. Once caught, you can never again be, in the eyes of the good and the pure, what you were before. Many a young person has injured himself permanently through a single clumsy and illfinished lie, the result of carelessness born of incomplete training. Some authorities hold that the young ought not to lie at all. That, of course, is putting it rather stronger than necessary; still, while I cannot go quite so far as that, I do maintain, and I believe I am right, that the young ought to be temperate in the use of this great art until practice and experience shall give them that confidence, elegance, and precision which alone can make the accomplishment graceful and profitable. Patience, diligence, painstaking attention to detail — these are the requirements; these, in time, will make the student perfect; upon these, and upon these only, may he rely as the sure foundation for future eminence. Think what tedious years of study, thought, practice, experience, went to the equipment of that peerless old master who was able to impose upon the whole world the lofty and sounding maxim that "truth is mighty and will prevail" — the most majestic compound fracture of fact which any of woman born has yet achieved. For the history of our race, and each individual's experience, are sown thick with evidence that a truth is not hard to kill and that a lie told well is immortal. There is in Boston a monument of the man who discovered anaesthesia; many people are aware, in these latter days, that that man didn't discover it at all, but stole the discovery from another man. Is this truth mighty, and will it prevail? Ah no, my hearers, the monument is made of hardy material, but the lie it tells will outlast it a million years. An awkward, feeble, leaky lie is a thing which you ought to make it your unceasing study to avoid; such a lie as that has no more real permanence than an average truth. Why, you might as well tell the truth at once and be done with it. A feeble, stupid, preposterous lie will not live two years — except it be a slander upon somebody. It is indestructible, then, of course, but that is no merit of yours. A final word: begin your practice of this gracious and beautiful art early — begin now. If I had begun earlier, I could have learned how.

Never handle firearms carelessly. The sorrow and suffering that have been caused through the innocent but heedless handling of firearms by the young! Only four days ago, right in the next farmhouse to the one where I am spending the summer, a grandmother, old and gray and sweet, one of the loveliest spirits in the land, was sitting at her work, when her young grandson crept in and got down an old, battered, rusty gun which had not been touched for many years and was supposed not to be loaded, and pointed it at her, laughing and threatening to shoot. In her fright she ran screaming and pleading toward the door on the other side of the room; but as she passed him he placed the gun almost against her very breast and pulled the trigger! He had supposed it was not loaded. And he was right — it wasn't. So there wasn't any harm done. It is the only case of that kind I ever heard of. Therefore, just the same, don't you meddle with old unloaded firearms; they are the most deadly and unerring things that have ever been created by man. You don't have to take any pains at all with them; you don't have to have a rest, you don't have to have any sights on the gun, you don't have to take aim, even. No, you just pick out a relative and bang away, and you are sure to get him. A youth who can't hit a cathedral at thirty yards with a Gatling gun in three-quarters of an hour, can take up an old empty musket and bag his grandmother every time, at a hundred. Think what Waterloo would have been if one of the armies had been boys armed with old muskets supposed not to be loaded, and the other army had been composed of their female relations. The very thought of it makes one shudder.

There are many sorts of books; but good ones are the sort for the young to read. Remember that. They are a great, an inestimable, an unspeakable means of improvement. Therefore be careful in your selection, my young friends; be very careful; confine yourselves exclusively to Robertson's Sermons, Baxter's *Saint's Rest*, *The Innocents Abroad*, and works of that kind.[2]

But I have said enough. I hope you will treasure up the instructions which I have given you, and make them a guide to your feet and a light to your understanding. Build your character thoughtfully and painstakingly upon these precepts, and by and by, when you have got it built, you will be surprised and gratified to see how nicely and sharply it resembles everybody else's.

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[1] The bloody battle (1815) in which Napoleon suffered his final defeat at the hands of English and German Troops under the Duke of Wellington.

[2] The five volumes of sermons by Frederick William Robertson (1816-1853), an English clergyman, and Richard Baxter's *Saint's Everlasting Rest* (1650) were once well-known religious works. *The Innocents Abroad* is Clemens's own collection of humorous travel sketches.

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5 1. State the basic theme of this essay.

10 2. Justify the including of this essay in the comic mode. Give references to at least **three** elements to support your answer.

5 3. Identify and briefly explain **three** examples of verbal irony contained in this essay.

5 4. This essay is satirical in nature. Compare it with similar selections in **Literary Modes.**

SECTION B

Do any **THREE** items in this section, supporting each of your responses with detailed references to appropriate prescribed texts. Total value: 75%.

Note that these references overall must include at least one detailed reference to a novel and one detailed reference to a long play, either in the same or in different responses. The three items must be carefully chosen, therefore, so that there is at least one for which reference to a novel is appropriate and one for which reference to a long play is appropriate.

For your reference, the following is a complete list of novels and plays prescribed for the course:

NOVELS	PLAYS
The Stone Angel	**Oedipus Rex**
Huckleberry Finn	**She Stoops to Conquer**
Wuthering Heights	**Pygmalion**
The Fellowship of the Ring	**The Tempest**
A Separate Peace	**A Man for All Seasons**

25 5. **The Tragic Mode**

Do **ONE** part only of this item: either (a), (b), or (c).

(a) Explain why **Oedipus Rex** or **The Stone Angel** is a good representative of the tragic mode.

(b) By referring to selections from **Literary Modes**, demonstrate that you have a complete understanding of **three** of the following elements of tragedy:

pathos
sacrifice
catharsis
retribution
tragic flaw

Value

(c) "Though we have mixed emotions about tragic characters who precipitate their own downfall, we have a strong sense of compassion for the victims of fate — the innocent victims." Explain this statement with detailed reference to selections studied this year.

25 6. **The Comic Mode**

Do **ONE** part only of this item: either (a), (b), or (c).

(a) Choose **three** elements of comedy and explain their use in either **Huckleberry Finn** or **She Stoops to Conquer.**

(b) "Satire is a form of writing which makes use of irony, ridicule, and sarcasm to attack human vices and weaknesses." By referring to any two selections in **Literary Modes**, show that this statement is true.

(c) "To find humour in life, one must be able to recognize all that is different — the odd, the unexpected, and the exaggerated." Discuss this statement with reference to selections studied this year.

25 7. **The Romantic Mode**

Do **ONE** part only of this item: either (a), (b), or (c).

(a) "Romantic writing often deals with the search for truth, beauty, and goodness." Analyze this statement with reference to any **two** selections from **Literary Modes.**

(b) Illustrate **three** important themes present in either **Wuthering Heights** or **Pygmalion.**

(c) Chivalry and courtly love are important romantic elements, not only in medieval literature but in later periods as well. Evaluate the importance of these two elements with reference to any **two** selections you have studied in **Literary Modes.**

25 8. **The Fantastic Mode**

Do **ONE** part only of this item: either (a), (b), or (c).

(a) "Though presenting a world of supernatural, fantasy can teach us much about our own real or natural world." Evaluate this statement with reference to either **The Tempest** or **The Fellowship of the Ring.**

(b) Fantasy has a broad spectrum ranging from realistic fantasy, which consists of stories set in the known world, to imaginative fantasy, which consists of stories set in the future or in another world. By referring to at least **three** selections studied this year, discuss the broad range of fantasy.

(c) Fantasy appears in a variety of genres. Using **Literary Modes**, examine fantasy as it appears in the following three genres: short story, poetry, myth.

25 9. **The Contemplative Mode**

Do **ONE** part only of this item: either (a), (b), or (c).

(a) Choose **two** selections from **Literary Modes** and explain what you believe is the main contemplative theme of each selection.

(b) "Contemplation is the act of thinking and the contemplative mode is the literature of ideas." By referring to any **two** selections studied this year, evaluate the truth of this statement.

(c) "In contemplative literature a main character often gains keen insight into both himself and the world around him. This new understanding comes through deep reflection and meditation." Discuss this statement with reference to **A Separate Peace** or **A Man for All Seasons.**

25 10. **Comparison of Modes**

Do **ONE** part only of this item: either (a), (b), or (c).

(a) Magic and mystery are elements of both the romantic and the fantastic modes. By referring to selections studied this year, demonstrate that this is true.

(b) Explain how the theme of "personal growth through conflict" is developed in **two** literary modes.

(c) "Comedy and tragedy are similar views because their basis is the preservation of the dignity of human life." Analyze this statement by referring to at least **two** selections from the comic and tragic modes contained in **Literary Modes.**

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

FOLK LITERATURE 3203

JUNE 1989

Value: 100 marks

Time: 3 hours

GENERAL INSTRUCTIONS

1. The examination consists of essay items only, arranged in five sections, as follows, and candidates are required to do **ALL** items as directed in each:

   SECTION A — Folk Narrative — 30%
   SECTION B — Folk Song — 30%
   SECTION C — Folk Speech — 15%
   SECTION D — Folk Drama — 10%
   SECTION E — Fieldwork — 15%

2. There is considerable choice provided within most items. Candidates are cautioned to read the item directions carefully and to do only the part(s) required in each.

3. Answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the Chief Supervisor prior to the first session, and have been posted for further reference near the entrance to the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

— Materials required
— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

Value

SECTION A

Folk Narrative

Do **ALL** items in this section. Total value: 30%.

4 1. (a) Explain the following Folk Literature terms:
(i) monologue
(ii) recitation

6 (b) **EITHER**

Why do monologues and recitations best represent the similarities between folk literature and written literature?

OR

Describe the performance systles commonly associated with recitations and monologues.

2. Do part (a) and any **two other** parts of this item in reference to the following legend — **THREE** parts in all.

The Origin of Birth and Death

> Once the Tree and the Rock were pregnant and were about to give birth. The Tree woman held on to a stick or bar, as Indian women do, while the Rock woman used nothing to hold on to. Her child, when half born, turned into a rock and died. Raven came along shortly afterwards, and found the women. He said, "I am very sorry. I have come too late. Had I been here, this would not have happened. Now people must die because Tree gave birth, and Rock did not." If Rock had given birth, and Tree had not, people would never die. People would have been like rocks, and lasted forever. As it is now, people are like trees. Some will live to be very old, and decay and die, as some trees do; while others when only partly grown, will die like young trees that die without decay and fall down. Thus death comes to people at all ages, just as among trees, and none lives very long.

2 (a) To what category of legend does "The Origin of Birth and Death" belong? Why?

4 (b) Identify four characteristics of the legend evident in this selection.

4 (c) Describe two differences between legends and personal experience narratives.

4 (d) Discuss the statement, "Folk legends try to answer certain questions." Refer to functions in your answer.

3. Read the following folk narrative and do **ALL** items following it.

Cornu and His Sons

> Cornu lived at the king's palace with his three sons. The king also had three sons. One day the king's sons got in a fight with Cornu's sons, and one of the king's sons was killed. That evening the king said to Cornu, "All three of your boys came home tonight, but only two of mine returned. For this reason, I am going to have you and your three sons put to death, unless you go to the king who owns it and bring back to me the famous mare".
>
> Cornu and his sons set out at once. On the way they stopped at a grist mill and asked the owner how they could get into the palace. He suggested that they get into grain bags and so be smuggled into the palace. Each of them crawled into a bag, and the porters unsuspectingly carried them into the palace. That night they slipped out and began to put the bridle on the mare, but she neighed loudly, and they had to hide again in the bags. The king, hearing the neigh, called to his soldiers to look at the horse. The soldiers could find nothing amiss. After they had departed, Cornu and his sons crawled forth again and again essayed to put the bridle on the mare, but again she neighed and again the king sent out the soldiers, but they found nothing since Cornu and his sons had got safely back in the bags. They tried it a third time and this time the king himself went, and he discovered the intruders.
>
> When they stood before him, the king said to Cornu, "Have you ever been closer to death than you are at this moment? If you have and can prove it by a story, I will let one of your sons go free". "Yes," said Cornu, "I have been closer to death. Once I was milking cows when twelve great cats came, and one of them began to purr very loudly, and I asked him what he'd take for the purr, and he said one cow. I agreed, and then all the cats began to swallow all the cows, and I climbed to the top of a tree, but the tree began to bend, and the cats were about to devour me when a man came and shot the cats." The king agreed that Cornu had proved his point and released one of the boys.

Value

Then the king said, "If you have been closer to death a second time than you are now and can prove it with a story, I'll release a second son." "Well," said Cornu, "I used to sail, and one day as I was sailing along the shore, I saw a giant in a cave about to kill a girl. I shouted at him, but he refused to let her alone. He killed her and then turned on me. He had only one good eye. I told him I'd cure his eye, and he agreed to let me try. I mixed up some hot medicine and poured it into his eye, and it blinded him. The giant tried to catch me, but he could not because he was blind, and I hid among the goats in the cave. Then the giant told his son to open the gate and let the goats out. He stood in the doorway feeling each goat as it went out. There was a little goat at the end of the line; I took it on my back and slipped out between the giant's legs. When I got outside, I called, "Catch me if you can." The giant answered, "Since you are so clever, take this ring". Then he threw the ring to me. "Have you the ring on your finger?" 'Yes', I answered. Then the giant shouted. "Ring come here, come close." The ring began to drag me toward the giant, but I escaped by cutting off my finger." The king agreed that Cornu had fulfilled the condition, and so he set the second son free.

Then the king said, "If you have been closer to death a third time than you are now, I'll release your third son." Whereupon Cornu told the third story. "One time I was at the seashore when a beautiful ship came in. I went on board, and it sailed away to a house in the ocean. There was a woman there raising a poker to a child. When I asked her what she was doing, she replied that she was going to kill the child for the dinner of the giant who lived there. I told her to hide the child and so she did. I went up the stairs and lay down among the dead men there. The giant came home and made a great feast of the dead men and then went to sleep. Then I killed the giant and saved that baby. And that baby was you." When the king heard this he released the man and all his sons.

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4 (a) To which type of folk tale does "Cornu And His Sons" belong? Why?

6 (b) With appropriate references to this folktale, discuss any **THREE** of the textual characteristics of folk literature.

SECTION B

Folk Song

Do any **TWO** complete items in this section. Total value: 30%.

5 4. (a) Discuss the factors which determine whether a song can be classified as a folk song.

10 (b) Write brief definitions of any **FIVE** of the following terms:
(i) chin music
(ii) shanties
(iii) broadside ballad
(iv) descriptive folksong
(v) catalogue songs
(vi) cumulative songs
(vii) nonsense songs

5. Read the following lyric folksong and do **ALL** parts of this item following it.

Lonely Waterloo

As I roved out one morning in the lovely month of June,
The birds was gaily singing and the flowers was in full bloom;
I met a comely fair one and her tears fell down like dew,
Crying: "What news brings you of my Willie dear, from lonely Waterloo?"

'If your love was in battle could you tell me his name?
Dear madam, I'm a soldier and perhaps I knows the same;
His height and his complexion could you tell me it too,
And the colour of the clothes he wore in lonely Waterloo.'

'My Willie he was as clever a man as ever your eyes did spy,
He wore an highland bonnet, with a feather standing high;
A glistening sword hung by his side over his dark suit of blue,
That was the clothes my Willie wore in lonely Waterloo.'

Value

'If that's the clothes your Willie wore, I know that young man well
A bullet pierced his tender heart, from that your Willie fell.
He called me to his side and said: "Some Frenchman did me slew."
It was I that closed your Willie's eyes at lonely Waterloo.'

'Stand back, stand back young man,' she said, 'if what you tell be true;
You take me to my Willie dear, don't let me die with you.
The jaws of death might open wide and swallow me down too;
Since my Willie lies a mouldering corpse in lonely Waterloo.

O if I was an eagle, I'd fly those mountains high,
I'd fly to lonely Waterloo where my true love do lie;
I'd light upon his milk-white breast, pitch on his suit of blue,
I'd kiss my darling's pale cold cheeks in lonely Waterloo.

If I was but an angel, I'd fly those mountains high -
I'd fly to lonely Waterloo all where my love do lie;
'Tis for his kind and tender sake those bleeding wounds I'd heal, 1
And on his tender bosom forever I'd remain.'

When he found that she was loyal, when he found that she was true -
Put his hand in his coat pocket, saying, 'Here's the ring we broke in two;
I left you in your father's care and what more could I do?
I'm now at home, no more to roam from lonely Waterloo.'

---

3 (a) This folksong belongs to the major classification of folksongs called Lyric Folksongs. Define lyric folksong.

4 (b) This folksong contains one simile. Identify the simile and explain what is being compared.

8 (c) Show how symbols and images are used to express feelings and emotions.

6. Read the following ballad and do ALL parts of this item following it.

The Girl in Charlottetown

There was a girl in Charlottetown,
The fairest of the place,
Until a young man courted her
And brought her to disgrace.

Then he brought a baby unto her
And she to him did say,
"Oh, Charlie, dear, oh, Charlie,
Why don't you marry me?"

"To marry you, my fair pretty maid,
Is more than I can do;
I would rather marry some girl that I love
Then marry a one like you.

"Go home and tell your parents
To do the best they can
And tell them that your Charlie dear
Has proved a false young man."

"I will not let my parents know
To bring them to disgrace;
I would rather go and drown myself
Unto some lonesome place."

As Charlie dear was walking
Down by the riverside,
'Twas there he spied his own Polly
A-floating with the tide.

Value

He took her by the lily-white hand
And found that she was gone;
"May the Lord have mercy on my poor soul,
I have proved a false young man.

"Come all ye friends and relations,
A warning take by me,
Down by those old and sandy banks
I'll die for my Polly".

---

4 (a) To what sub-category of the classical ballad does this ballad belong? Why?

5 (b) Discuss this ballad in relation to Gerould's definition of the classical ballad.

6 (c) Describe the various aspects of ballad style as illustrated by this ballad.

SECTION C

Folk Speech

Do **ALL** items in this section. Total value: 15%.

6 7. Select any **THREE** of the following proverbs and for each give (1) the meaning, and (2) a function.
(a) A friend in need is a friend indeed.
(b) An ounce of prevention is worth a pound of cure.
(c) Nothing ventured, nothing gained.
(d) Necessity is the mother of invention
(e) Still waters run deep.

6 8. Select any game rhyme with which you are familiar, and describe **SIX** characteristics of game rhymes which are illustrated by it.

3 9. Briefly define **THREE** of the following types of riddles. Use examples if you wish.
(a) true riddle
(b) neck riddle
(c) clever or tricky questions
(d) conundrums
(e) puzzling questions

SECTION D

Folk Drama

Do any **TWO** complete items in this section. Total value: 10%.

5 10. Identify **FIVE** elements of folk drama which make it different from drama which might be presented in a theatre.

5 11. Write a paragraph describing the tradition of mumming in Newfoundland.

5 12. Discuss briefly the characteristics of **EITHER** the Hero-Combat Plays **OR** the Miracle Plays.

SECTION E

Fieldwork

Do **ALL** items in this section. Total value: 15%.

5 13. Write a brief description of the fieldwork project which you completed this year in "Folk Literature".

Value

14. Do any **TWO** of parts (a), (b) and (c):

5 (a) Identify or define the following fieldwork terms:
  (i) fieldwork
  (ii) informant
  (iii) performance
  (iv) non-directive interview
  (v) observation

5 (b) Establishing rapport is the most important task facing a fieldworker. Outline five things a fieldworker can do to establish rapport.

5 (c) "Proper preparation by the fieldworker is essential to the success of the research." Discuss this statement fully.

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

NUTRITION 3100

JUNE 1989

PART I

Value: 40 marks

Time: 40 minutes

Examination Number______________________

GENERAL INSTRUCTIONS

1. Part I consists of objective items only, arranged in two sections as follows, and candidates are required to do **ALL** items:

   SECTION A — Multiple-choice — 25%
   SECTION B — Completion — 15%

2. All answers are to be written in this paper.

3. Be sure to write your Examination Number in the space above.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the chief Supervisor prior to the first session, and have been posted for further reference near the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

— Materials required
— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
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— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

SECTION A

Write the letter of the correct response for each of the following in the blank at the right. Total value: 30%.

1. Which food is permitted in an ovo-vegetarian diet? ....(1) ________
   (A) fish
   (B) cheese
   (C) milk
   (D) eggs

2. Which vitamin may be harmful if taken in megadoses? ....(2) ________
   (A) vitamin A
   (B) vitamin C
   (C) niacin
   (D) thiamine

3. What ingested nutrient is the most common cause of food allergies? ....(3) ________
   (A) starch
   (B) fat
   (C) protein
   (D) cellulose

4. Why is the use of nitrites as an additive a subject of controversy? ....(4) ________
   (A) They are not considered a necessary preservative.
   (B) They are used primarily to promote the "pink" colour of meats.
   (C) They have the ability to kill the deadly clostridium botulinum.
   (D) They can be converted in the stomach to a carcinogenic substance called nitrosamines.

5. Which of the following is supplied in significant quantities in the bread and cereals group? ....(5) ________
   (A) protein
   (B) thiamin
   (C) fat
   (D) vitamin A

6. Goitre is caused by a deficiency of what mineral? ....(6) ________
   (A) iodine
   (B) iron
   (C) magnesium
   (D) zinc

7. What percentage of one's daily kilojoule (calorie) intake should come from fat? ....(7) ________
   (A) 30
   (B) 40
   (C) 50
   (D) 60

8. What oil has the highest amount of polyunsaturated fatty acids? ....(8) ________
   (A) corn
   (B) cottonseed
   (C) safflower
   (D) peanut

9. Which of the following does a breast-fed baby need as supplements? ....(9) ________
   (A) vitamin D, fluoride and iron
   (B) vitamin C, iron and calcium
   (C) vitamin A, iron and fat
   (D) vitamin D, vitamin C and calcium

10. Which of the following is an essential fatty acid that must be supplied in a diet? ....(10) ________
    (A) nitrogen
    (B) sulphur
    (C) linoleic acid
    (D) ascorbic acid

11. Which nutrient takes the longest time to digest in the body? ....(11)
    (A) fat
    (B) sugar
    (C) protein
    (D) starch

12. Which of the following **CANNOT** be achieved by bottle feeding a baby? ....(12) __________
    (A) psychological satisfaction
    (B) proper nutrition
    (C) convenience
    (D) immunity to infection

13. Which nutrients do athletes especially need in ample amounts? ....(13) __________
    (A) proteins and carbohydrates
    (B) protein and iron
    (C) B complex vitamins
    (D) B complex and protein

14. Which mineral is found in Epsom Salts? ....(14) __________
    (A) zinc
    (B) magnesium
    (C) calcium
    (D) fluorine

15. What is the suggested maximum fat intake in the diet? ....(15) __________
    (A) 15 percent of the kilojoules
    (B) 30 percent of the kilojoules
    (C) 35 percent of the kilojoules
    (D) 80 grams per day

16. Which of the following is **NOT** a primary role of protein? ....(16) __________
    (A) storing energy
    (B) building body tissues
    (C) maintaining body tissues
    (D) regulating body functions

17. What is the proper order of introduction of solid food to an infant's diet? ....(17) __________
    (A) fruit, vegetables, cereal, egg yolk
    (B) cereal, vegetables, fruit, egg white
    (C) vegetables, cereal, fruit, egg white
    (D) cereal, vegetables, fruit, egg yolk

18. Which of these statements about cholesterol is **TRUE** ? ....(18) __________
    (A) It is a dietary essential.
    (B) It is synthesized in the body.
    (C) Dietary polyunsaturates tend to elevate blood cholesterol levels.
    (D) Cholesterol helps form vitamin A when the skin is exposed to sunlight.

19. What mineral works with sodium to help conduct nerve impulses? ....(19) __________
    (A) potassium
    (B) phosphorus
    (C) iron
    (D) fluorine

20. Which food is most suitable to eat one hour before an athletic event? ....(20) __________
    (A) vegetable soup
    (B) chocolate bar
    (C) T-bone steak
    (D) cheesecake

21. In which of the following nutrients are the diets of many teenagers low? ....(21) __________
    (A) calcium, iron and vitamins C and A
    (B) calcium, vitamin D, protein and carbohydrates
    (C) calcium and vitamins C and E
    (D) calcium, carbohydrates and protein

22. What type of fad diet, promoted for athletes, is "glycogen loading"? ....(22) __________
    (A) crash diet
    (B) special formula diet
    (C) high performance diet
    (D) normal diet

23. Which deficiency disease is associated with vitamin C? ....(23) __________
    (A) pellegra
    (B) beri-beri
    (C) rickets
    (D) scurvy

24. Which of the following is associated with high salt intake? ....(24) __________
(A) osteoporosis
(B) hypertension
(C) cancer
(D) obesity

25. How long does the storage of iron last in a newborn infant? ....(25) __________
(A) 1 week
(B) 2 weeks
(C) 1 month
(D) 3 months

SECTION B

Write the correct response for each of the following in the blank at the right. Total value: 15%.

26. What is the term used to describe the amount of energy needed in your body to carry on bodily functions? ....(26) ____________________

27. What product is associated with the "Chinese Restaurant Syndrome"? ....(27) ____________________

28. Into what simple sugar is carbohydrate broken down as a result of digestion? ....(28) ____________________

29. What vitamin is found only in foods of animal origins? ....(29) ____________________

30. What form of vitamin A is found in yellow and green vegetables? ....(30) ____________________

31. What hormone deficiency results in diabetes? ....(31) ____________________

32. What condition results from the buildup of plaque along the inner walls of the arteries? ....(32) ____________________

33. What is the process of passing nutrients through the intestinal wall? ....(33) ____________________

34. Inadequacy of the world supply of what nutrient is the most common food problem from a global point of view? ....(34) ____________________

35. What term refers to the existence of an open lesion on the gastric lining? ....(35) ____________________

36. Into what simpler units can protein be reduced? ....(36) ____________________

37. What is the energy value derived from a gram of pure fat? ....(37) ____________________

38. What is the recommended weight gain during pregnancy? ....(38) ____________________

39. What vitamin must be increased when the amount of carbohydrate is increased in the diet? ....(39) ____________________

40. What mineral deficiency causes osteoporosis? ....(40) ____________________

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

NUTRITION 3100

JUNE 1989

PART II

Value: 60 marks

Time: 80 minutes

GENERAL INSTRUCTIONS

1. Part II consists of essay items only, arranged in four sections, with requirements as follows:

   SECTION A — Do any THREE items — 30 %
   SECTION B — Do any TWO items — 24%
   SECTION C — Do ALL items — 6%

2. Answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

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— Materials required
— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

Value

SECTION A

Do any **THREE** complete items from this section. Total value: 30%.

3 1. (a) List **three** nutrition related disadvantages of using convenience foods.

(b) Following is a suggested menu for an overweight female adolescent. Study the menu and do both parts of this item following it.

Breakfast:	2 slices enriched toast 1 cup of tea with cream
Lunch:	1 plate French fries 1 hamburger 1 strawberry milkshake
Supper:	1 bowl chicken noodle soup 4 crackers 1 cup tea with cream ice cream
Night Snack:	1 bag potato chips 1 glass cola

4 (i) Write an evaluation of this menu indicating how it does **NOT** follow the Canada Food Guide, and stating what improvements you would make.

3 (ii) What menu could you suggest for persons who, while controlling their weight and following good nutrition practices, want to eat at the local fast food restaurant?

5 2. (a) The amount of saturated fat in the diet of North Americans has been a source of major concern to nutritionists, dietitians and nutrition educators. Describe **FIVE** ways a person can cut down on saturated fat in his or her diet without totally eliminating any one food or making the diet totally boring.

1 (b) What is the difference between complete (high quality) and incomplete (low quality) protein?

2 (c) What are the food groups of a vegetarian diet?

1 (d) What is a complementary protein?

1 (e) Suggest a complementary protein food that would be beneficial to a vegetarian diet.

10 3. Even though women very often do most of the cooking, feed most of the children, and possess greater knowledge of nutritional needs than men, women are generally more poorly nourished. Why? Suggest **FIVE** separate reasons.

4 4. (a) List **TWO** advantages and **TWO** disadvantages of breastfeeding.

4 (b) Malnutrition sometimes exists among senior citizens. Suggest one reason of each of the following types for this circumstance:

(1) social
(2) economical
(3) psychological
(4) physical

2 (c) Obesity could cause or contribute to a number of health problems. Name **TWO** such problems.

SECTION B

Do any **TWO** complete items from this section. Total value: 24%.

5 5. (a) Briefly discuss **TWO** of the most serious reasons for low food production in developing countries.

2 (b) Describe the condition known as "kwashiorkor", and suggest a treatment.

Value

5 (c) "Infant formulas are killing Third World babies." Write a paragraph explaining this statement.

12 6. The following are some often suggested solutions to the problem of hunger. Give one advantage and one disadvantage of each solution.

(a) Food Aid
(b) new "high" technology
(c) production of "fish" flour
(d) family planning
(e) the green revolution
(f) money

6 7. (a) Name **SIX** agencies or associations that are attempting to address global food problems.

6 (b) List **SIX** barriers to proper distribution of food.

SECTION C

Do **ALL** items in this section. Total value 6%.

8. Do **ONE** part only — either (a) or (b).

2 (a) What is the difference in the educational requirements for a dietitian and a dietetic technician.

2 (b) What is a paraprofessional? Give an example.

9. Do **ONE** part only — either (a) or (b).

3 (a) Four areas of food service are: Food Preparation, Consumer Service, Sanitation, and Management. State which of these areas offer entry-level jobs, and give one example of such a job in each area.

3 (b) Compare a professional position and a paraprofessional position in the food industry in terms of the following:

(1) educational background
(2) job responsibility
(3) salary

10. Do **ONE** part only — either (a) or (b).

1 (a) Why is it that the number of jobs in the food service industry has been increasing and is expected to continue to increase in the near future?

1 (b) What is an institutional food service system?

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

TEXTILES 3101

JUNE 1989

PART I

Value: 40 marks

Time: 45 minutes

Examination Number ____________________

GENERAL INSTRUCTIONS

1. Part I consists of objective items only, arranged in two sections as follows, and candidates are required to do **ALL** items:

    SECTION A — 25 multiple-choice items — 25%
    SECTION B — 15 completion items — 15%

2. Be sure to write your Examination Number in the space provided above.

REGULATIONS FOR CANDIDATES

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— Materials required
— Materials not permitted
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— Completion of required information
— Use of unauthorized means, and penalties

SECTION A

Write the letter of the correct response for each of the following in the blank at the right. Total Value: 25%

1. What type of lines add softness and femininity but tend to increase the size of the wearer?..............................(1) __________
(A) curved
(B) vertical
(C) diagonal
(D) horizontal

2. What was World War II 's influence on fashion?..............................(2) __________
(A) natural shoulders, small waistline, longer full skirt
(B) broad padded shoulders, shorter full skirts, nipped-in waistline
(C) natural shoulders, shorter full skirts, small waistline
(D) broad padded shoulders, small waistline, shorter straight skirt

3. What snythetic fibres are used to make fake furs? ....(3) __________
(A) acetate
(B) nylon
(C) acrylic
(D) modoacrylic

4. What chemical process reduces the shrinkage in cotton to not more than one percent?..............................(4) __________
(A) durable finish
(B) sanforization
(C) scotchguarding
(D) mercerization

5. Which two fibres are classified as semi-synthetics? ....(5) __________
(A) rayon and nylon
(B) nylon and polyester
(C) rayon and acetate
(D) polyester and acrylic

6. Wide slacks, known as trousers, first became popular for women in which decade? ....(6) __________
(A) 1920's
(B) 1930's
(C) 1940's
(D) 1950's

7. What term refers to the condition in which tiny fibre ends ball up on the surface of a fabric? ....(7) __________
(A) pilling
(B) snagging
(C) shearing
(D) pulling

8. For what major design is Mary Quant responsible? ....(8) __________
(A) hiphuggers
(B) hotpants
(C) mini skirt
(D) hobble skirt

9. What is the process whereby fibres are brushed so that they lie parallel? ....(9) __________
(A) combing
(B) carding
(C) felting
(D) scutching

10. What optical illusion would be created by clothing made from heavy bulky fabrics? ....(10) __________
(A) make the wearer look smaller
(B) make the wearer look larger
(C) emphasize any figure irregularities
(D) conceal any figure irregularities

11. What property of fibreglass accounts for the fact that it is often used in drapes for public buildings? ....(11) __________
(A) durability
(B) resiliency
(C) resistance to abrasion
(D) resistance to flame

12. Which hues would make a person look slender? ....(12) __________
(A) cool
(B) shiny
(C) bright
(D) warm

13. Which of the following fibres in a garment would cause wrinkles to fall out when the garment is hung up? .....(13) __________
(A) silk
(B) linen
(C) cotton
(D) wool

14. Which of the following is a Canadian fashion designer? ....(14) __________
(A) Charles Worth
(B) Mary Quant
(C) Ralph Lauren
(D) Gabriel Lerry

15. What term refers to colours that are achieved by adding black? ....(15) __________
(A) tints
(B) values
(C) intensities
(D) shades

16. To what fibre do the trade names "Dacron and Fortrel" refer? ....(16) __________
(A) nylon
(B) rayon
(C) polyester
(D) acrylic

17. What principle of design is illustrated when a scarf is added to an outfit to create a centre of interest? ....(17) __________
(A) proportion
(B) harmony
(C) emphasis
(D) rhythm

18. What process produces a fabric by joining together two layers of fabric with glue? ....(18) __________
(A) weaving
(B) looping
(C) felting
(D) bonding

19. What are the two natural fibres that can be damaged by mildew? ....(19) __________
(A) cotton and linen
(B) silk and cotton
(C) wool and silk
(D) linen and wool

20. What term describes wool made from scraps of new woven or felted fabrics that have been shredded back to the fibrous state? ....(20) __________
(A) virgin
(B) reused
(C) worsted
(D) reprocessed

21. What important style of the 1960's consisted of jeans decorated with embroidered patch or embroidered workshirt? ....(21) __________
(A) The Hippie Look
(B) The Punk Look
(C) The Disco Look
(D) The New Look

22. Which of the following is the best fibre choice for summer clothing? ....(22) __________
(A) wool
(B) cotton
(C) polyester
(D) acrylic

23. With what fabric is the twill weave associated? ....(23) __________
    (A) denim
    (B) broadcloth
    (C) gingham
    (D) velour

24. What is the term used for an item of clothing which is very popular for a short period of time but quickly becomes outdated? ....(24) __________
    (A) classic
    (B) style
    (C) fad
    (D) craze

25. What colour scheme is achieved by combining a neutral colour with a small amount of a bright colour? ....(25) __________
    (A) monochromatic
    (B) analogous
    (C) accented neutral
    (D) complementary

SECTION B

Write the correct response for each of the following in the blank at the right. Total value: 15%.

26. What type of weave is characterized by a smooth, shiny surface fabric? ....(26) ____________________

27. What term refers to the cut or design of a garment that makes it different from another design? ....(27) ____________________

28. What is the roughness or smoothness of the surface of a fabric called? ....(28) ____________________

29. What colour scheme is achieved by combining different values of one colour? ....(29) ____________________

30. What kind of balance is achieved if the line down the centre of a garment leaves one side different from the other? ....(30) ____________________

31. What term refers to the rise, peak, and decline of dress silhouette, length, and fullness? ....(31) ____________________

32. What is a fabric, commonly used to make boots and coats, that resembles leather, but is less expensive? ....(32) ____________________

33. What historical term, meaning "high fashion", is used to refer to new, unusual or extreme designs? ....(33) ____________________

34. What synthetic fibre is used in elastics, swimwear and stretchable fabrics? ....(34) ____________________

35. What term describes wool fabric made of fibres that have never previously been used or made into finished fabrics? ....(35) ____________________

36. What is a finish which, applied to textiles used in health care facilities, reduces the growth of bacteria? ....(36) ____________________

37. What synthetic fibre looks and feels like wool? ....(37) ____________________

38. What member of the British royalty set trends with her haircut, high ruffled collars, flat heeled shoes, hats and gloves? ....(38) ____________________

39. What term describes fibres that are twisted together or laid side by side? ....(39) ____________________

40. In what era were long hair, bright colours, and prints fashionable for men? ....(40) ____________________

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

TEXTILES 3101

JUNE 1989

PART II

Value: 60 marks

Time: 1 hour, 15 minutes

GENERAL INSTRUCTIONS

1. Part II consists of essay items only, arranged in four sections with requirements as follows:

   SECTION A — Do ONE item— 10%
   SECTION B — Do ONE item — 10%
   SECTION C — Do THREE items — 30%
   SECTION D — Do ONE item — 10%

2. Answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

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Value

SECTION A

Do any **ONE** complete item from this section. Total value: 10%.

6 1. (a) Clothing may serve a variety of functions, but there are a number of "basic" reasons that people wear the clothing they do. Name and explain any **THREE** of the basic reasons that people wear clothing.

4 (b) Discuss the notion that "clothing is an important factor when creating a first impression".

2. Mary feels that her waistline and well-proportioned hips are her most attractive features while her heavy bust and long neck are the least attractive. Using the principles of design and appropriate clothing details:

6 (a) Explain **THREE** ways Mary could emphasize both her waistline and her well-proportioned hips.

4 (b) Explain **TWO** ways to conceal both her long neck and her heavy bust.

SECTION B

Do any **ONE** complete item from this section. Total value: 10%.

10 3. The 20th century brought many changes to the fashion industry. Tell how any **FIVE** of the following factors influenced fashion.

(a) The Women's Movement

(b) World War II

(c) entertainment

(d) famous people

(e) The Depression

(f) the invention of the automobile

6 4. (a) Before a new style can become fashion, a feeling of familiarity must be established. Suggest **THREE** ways in which a new style can be made more familiar.

4 (b) Explain the trickle-down theory as applied to fashion.

SECTION C

Do any **THREE** complete items from this section. Total value: 30%.

5. Knitting and weaving are two well known methods by which fabrics are constructed from fibres.

2 (a) Describe knitting and weaving indicating clearly the differences between them.

6 (b) Describe **THREE** commonly used weaves, and name one fabric that would be an example of each.

2 (c) What are **TWO** advantages of a knitted fabric?

6 6. (a) The following pairs of fibres are frequently blended in fabrics. Choose any **THREE** pairs, and for each state one reason for the particular combination.

(i) nylon/wool

(ii) rayon/silk

(iii) polyester/wool

(iv) polyester/cotton

(v) acrylic/wool

Value

4 (b) When choosing fabrics for home furnishings, the qualities of performance are an important consideration. For each of any **TWO** of the following home furnishings, state **TWO** qualities to be considered:

(i) upholstery

(ii) draperies

(iii) carpets

10 7. The purposes for which fabrics may be used are determined by the particular properties of the fabrics. State **TWO** reasons based on fabric properties for each of the following fabric uses:

(a) cotton used in hospital textile products

(b) wool used to make men's three-piece suits

(c) nylon often used to make carpets

(d) acrylic used in winter wear such as hats, scarves, and mittens

(e) down used in Arctic wear

8. Select **ONE** of the four major natural fibres, and:

5 (a) Describe the process of development of this fibre from its original source until it becomes a fabric.

5 (b) Describe, with reference to its particular properties, how a garment made of this fibre should be cleaned.

5 9. (a) Textile labels serve the function of indicating how to care for a garment. Using correct symbols with proper colours, design a care label for **ONE** of the following:

(i) a red 100% cotton shirt

(ii) a red 100% wool skirt

3 (b) List **THREE** items of information, other than about fabric care, that may be found on a garment label.

2 (c) Why was the Textile Labelling Act an important piece of legislature for consumers?

SECTION D

Do the **ONE** complete item in this section. Total value: 10%.

10 10. Below are listed a number of career positions in the fashion and textile industry. Select any **FIVE** of these positions, and for each, (1) give a brief job description, and (2) state some personal characteristics that would be of benefit in the career.

(a) fashion designer
(b) fashion coordinator
(c) fashion model
(d) clothing/textile teacher
(e) retail buyer
(f) fashion editor
(g) custom sewer

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

FRENCH 3200

JUNE 1989

Value: 100 marks

Time: 3 hours

Examination Number ____________________

GENERAL INSTRUCTIONS

1. The examination consists of objective and essay items, arranged in four sections as follows, and candidates are required to do **ALL** sections as directed in each:

   SECTION A — Listening — 30%
   SECTION B — Dialogue — 20%
   SECTION C — Reading — 25%
   SECTION D — Writing — 25%

2. Note that Section A will be administered by tape. Instructions for individual items are written on the paper and will be read on the tape as each item is presented. LISTEN CAREFULLY AS THE TAPE WILL NOT BE STOPPED FOR REPETITION. All other sections are presented in written form only on this paper.

3. Note that for marking purposes, item values are given as a number of points out of 200. Hence, the percent value of items is exactly half the marking point value.

4. All answers are to be written on this paper. Do not use allotted answer spaces for rough drafts which you may wish to discard.

5. Be sure to write your Examination Number in the space provided above.

REGULATIONS FOR CANDIDATES

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SECTION A

Listening

Value

Do **ALL** items in this section as directed on the tape. Total value: 60 points (30%)

5 1. In your examination booklet are five pictures, numbered (i) to (v). For each picture you will hear three statements, A, B, and C, read only once. Only one of these statements is appropriate for the picture. You are to determine which is the appropriate statement and circle the corresponding letter under the picture.

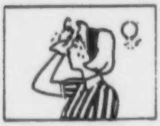
EXAMPLE

(A) Elle a faim.

(B) Elle a chaud.

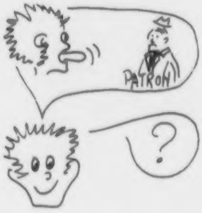
(C) Elle a froid.

EXAMPLE



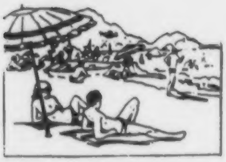
A [✓ B] C

(i)



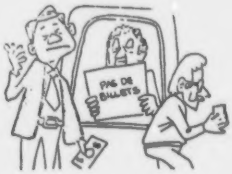
A B C

(ii)



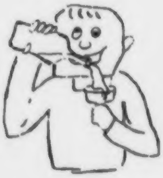
A B C

(iii)



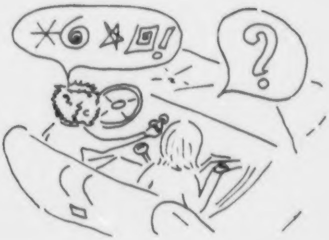
A B C

(iv)



A B C

(v)



A B C

Value

10 2. You will hear ten sentences, each read only once. One of the verb forms in the list given for each sentence will be used by the speaker. Select the form you have heard and place the letter, A, B, or C, identifying it in the corresponding blank to the right of each answer group.

EXAMPLE

J'ai déjà parlé avec le prof.

EXAMPLE

(A) parler
(B) parlé .... (EX) ___B___
(C) parlais

(a) (A) allées
(B) allé .... (a) ________
(C) allés

(b) (A) viennent
(B) vienne .... (b) ________
(C) vient

(c) (A) aura
(B) aurai .... (c) ________
(C) auras

(d) (A) rentrait
(B) rentrais .... (d) ________
(C) rentrez

(e) (A) entendu
(B) entendus .... (e) ________
(C) entendue

(f) (A) quittait
(B) quittais .... (f) ________
(C) quitté

(g) (A) regardes
(B) regarde .... (g) ________
(C) regardent

(h) (A) levé
(B) levées .... (h) ________
(C) levés

(i) (A) ouvres
(B) ouvre .... (i) ________
(C) ouvrez

(j) (A) est
(B) aie .... (j) ________
(C) ait

5 3. You will hear five sentences, each read **twice.** For each sentence you will see three possible responses, A, B, and C, printed on your paper. You are to select the response which is most closely associated with each sentence, and identify it by writing, A, B, or C, in the blank to the right of the response group.

EXAMPLE

Elle ne parle bas beaucoup.

EXAMPLE

(A) Elle est vieille.
(B) Elle est jolie. .... (EX) ___C___
(C) Elle est timide.

Value

(a) (A) Elle a gagné beaucoup d'argent.
(B) Elle a perdu son portefeuille. ....(a) ________
(C) Elle travaille depuis longtemps.

(b) (A) Il ne peut pas voir.
(B) Il ne peut pas parler. ....(b) ________
(C) Il ne peut pas entendre.

(c) (A) Je le sais. Son maillot de bain est mouillé.
(B) Je le sais. Son maillot de bain est sec. ....(c) ________
(C) Je le sais. Son maillot de bain est joli.

(d) (A) Oui, j'ai deux chandails.
(B) Oui, où est mon manteau? ....(d) ________
(C) Oui, il fait très beau.

(e) (A) Elle a réussi à tous ses examens.
(B) Elle a échoué à tous ses examens. ....(e) ________
(C) Elle aime étudier pour ses examens.

10 4. You will hear five questions, each read **twice**. For each question you will hear three possible responses, A, B, and C, read **twice**. You are to select the response which is most closely associated with each question and circle the corresponding letter on your paper.

EXAMPLE

Question: Comment va ta mère?

Responses: (A) Elle va bien.
(B) Ils vont bien.
(C) Il va bien.

EXAMPLE

[✓ A] B C

(i) A B C

(ii) A B C

(iii) A B C

(iv) A B C

(v) A B C

10 5. You will hear five short passages and five questions, one for each passage. Each passage and each question will be read **twice**. For each question you hear, select the best answer from the three listed on your paper, and place the letter identifying it in the blank to the right of each answer group.

EXAMPLE

Passage: "Marc a dix-sept ans. Il est en douzième année à l'école. L'année prochaine il espère faire des études à l'université. Il veut devenir professeur."

Question: A quoi pense Marc?

EXAMPLE

(A) les sports
(B) son avenir ....(EX) ___B___
(C) son professeur

Value

(a) (A) une fois
(B) une semaine ....(a) ____________
(C) un mois

(b) (A) Il adore les voitures.
(B) L'été passé. ....(b) ____________
(C) C'est le garage de son père.

(c) (A) Nous sommes allés chez elle.
(B) Nous sommes allés au supermarché. ....(c) ____________
(C) Nous sommes rétournés chez Hélène.

(d) (A) la boxe
(B) la bicyclette..(d) ____________
(C) tous les deux

(e) (A) Il déteste beaucoup d'exercices.
(B) Il déteste les élèves qui regardent la télé. ....(e) ____________
(C) Il déteste les élèves qui ne font pas les devoirs.

20 6. Write the following dictation in French. The passage will be read **three** times in French. Do not write during the first reading. The second reading will be at dictation speed, each group of words being repeated with punctuation given in French. This time you will write. The third reading will give you a chance to check what you have written.

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Value

SECTION B

Dialogue

Do **ALL** items in this section as directed in each. Total value: 40 points (20%)

20 7. Write a short conversation (2-3 lines) for each of **ten** of the following expressions in order to show that you understand the meaning of each expression.

EXAMPLE

Expression: Que tu es bête!

Answer: — Jean, j'ai laissé mes clefs dans la voiture.
— Que tu es bête!

(a) celui-là

____
____
____

(b) d'habitude

____
____
____

(c) tant pis!

____
____
____

(d) Quel goût sucré!

____
____
____

(e) faites le plein

____
____
____

(f) ça ne fait rien

____
____
____

(g) j'ai tout compris

____
____
____

Value

(h) la dernière fois

(i) bientôt

(j) aussi bien connu

(k) par jour

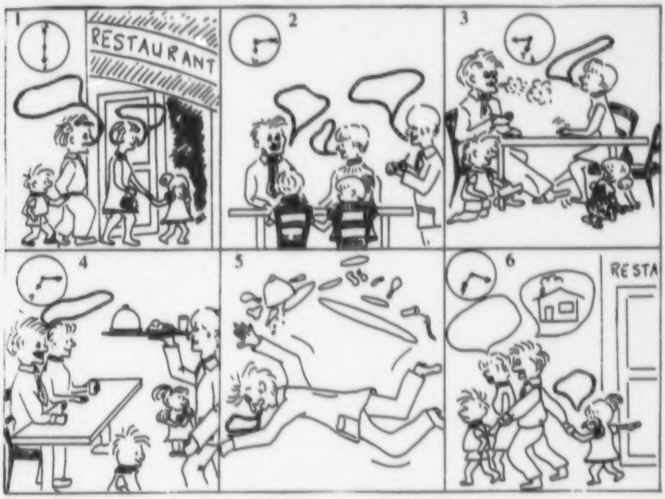
(l) tout à coup

(m) de nouveau

(n) distrait(e)

Value

20 8. Write a dialogue appropriate for the following pictures. Your dialogue should be logical and coherent, and should be developed according to the images presented. Use at least 10 lines and not less than 50 words in total.



Value

SECTION C

Reading

Do **ALL** items in this section as directed in each. Total value: 50 points (25%)

20 9. From the vocabulary list below, choose the most appropriate word or phrase to complete each sentence following the list, and write your answer in the blank at the right. No word or phrase from the list need be used more than once.

EXAMPLE

Il a trois enfants; deux filles et un __________ . ...(EX) ______fils______

VOCABULARY LIST

parce que
goût
assiette
drôle
fleur
genre
portefeuille
partout

recette
ciel
fois
pourboire
descendu
gardé
guerre
ailleurs

cause
chacun
histoire
sous
chanteur
coté
clignotant
fier

bol
chanteuse
espère
partout
campagne
choeur
fils

(a) La rose, c'est une belle __________ . ...(a) ____________________

(b) A __________ du mauvais temps, nous n'allons pas à la plage. ...(b) ____________________

(c) En l'an 2000, on croit que __________ aura un ordinateur. ....(c) ____________________

(d) Mon Dieu! je n'ai pas d'argent. J'ai oublié mon __________ ......(d) ____________________

(e) Un fermier habite à la __________ . ...(e) ____________________

(f) J'ai acheté un billet de loterie. J'__________ que je gagnerai. ......(f) ____________________

(g) On a cherché __________ , mais on n'a pas trouvé le chat. ....(g) ____________________

(h) Marie et Paul chantent dans un __________ à l'école. ....(h) ____________________

(i) Les Québécois ont __________ leur langue et leur culture. ....(i) ____________________

(j) Quel __________ de musique aimez-vous? ....(j) ____________________

(k) Jean nous raconte des histoires amusantes. Il est très __________ . ...(k) ____________________

(l) Le repas était délicieux alors j'ai laissé un __________ . ...(l) ____________________

(m) Dans une voiture, si on veut tourner, on doit mettre le __________ . ...(m) ____________________

(n) On sert la soupe dans un __________ . ...(n) ____________________

(o) Au Québec on dit "char", mais __________ on dit "voiture". ....(o) ____________________

(p) La deuxième __________ mondiale a fini le 11 novembre, 1945. .(p) ____________________

(q) Anne Murray est une bonne __________ canadienne. ....(q) ____________________

(r) Chez moi, on parle deux __________ , l'anglais et le français. .....(r) ____________________

Value

(s) Quand il fait beau, le __________ est bleu. ....(s) ______________________________

(t) Je suis très __________ de mon fils. Il a réussi à tous ses examens. ....(t) ______________________________

10 10. Complete the following passage by writing an appropriate word in context in each blank.

Le Carnaval de Québec

La ville de Québec est la capitale de la province du Québec. Cette ville est très ________________ pour son Carnaval. Le Carnaval se passe ________________ année au mois de février. Les festivités durent dix jours et ________________ un demi-million de touristes visitent Québec pour le Carnaval. Il y a ________________ de choses à voir: un palais de glace, deux grands défilés de nuit et même une course de canots sur les glaces flottantes. La joie de vivre des Québécois est très evident ________________ le Carnaval.

11. Read the following passage, and answer in complete French sentences the questions which follow it.

La Langue Québécoise

Au Québec, pour plus de 80% des gens, le français est la langue maternelle. Entouré d'anglophones, influencé par la radio et la télévision américaines, obligé bien souvent de travailler pour des employeurs de langue anglaise, le Québécois emploie souvent trop d'anglicismes.

D'autre part, on a crée au Québec certains canadianismes, c'est à dire des expressions locales qui servent à exprimer des réalités typiquement canadiennes. Ce sont des expressions courantes et souvent très imagées.[1] On dira "il mouille" pour "il pleut", et aller "magasiner" pour aller "faire du shopping".

Depuis quelques années, les Québécois ont retrouvé la fierté[2] de parler leur langue: on veut parler un bon français. Le radio, la télévision, le cinéma québécois ont contribué à perfectionner la qualité de la langue parlée. Aujourd'hui la langue québécoise n'est pas tellement différente du français parlé à Paris; la différence existe surtout dans la façon de prononcer les mots, et il y a des mots différents pour parler de la même chose.

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[1] un style qui contient beaucoup d'images
[2] satisfaction

2 (a) Est-ce qu'il y a beaucoup de personnes au Québec qui parlent français?

____

____

____

Value

2 (b) Pourquoi est-ce que le Québécois emploie trop d'anglicismes?

____

____

____

3 (c) Qu'est-ce que c'est, "un canadianisme"?

____

____

____

3 (d) Lesquelles des expressions dans le passage sont des canadianismes? (Deux examples)

____

____

____

5 (e) Quelles sont les principales différences entre le français de Paris et celui du Québec? Expliquez.

____

____

____

____

____

5 (f) Pensez-vous qu'il est important de parler un bon français? Pourquoi?

____

____

____

____

____

Value

SECTION D

Writing

Do **ALL** items in this section as directed in each. Total value: 50 points (25%).

10 12. Complete the following sentences by writing the verb indicated for each in the proper tense according to the context in which it is used.

EXAMPLE

(finir) Il ______finit______ maintenant.

(a) (vouloir) Elles n(e) __________________ pas sortir maintenant.

(b) (aller) Demain matin, je n(e) __________________ pas à l'école.

(c) (mettre) Les clefs? Paul les __________________ dans la voiture.

(d) (faire) Il faut qu'ils __________________ leur lit.

(e) (voir) Il rentrait quand il __________________ l'accident.

(f) (réussir) Si je travaillais dur, je __________________ à mes examens.

(g) (conduire) Nous ne devons pas __________________ sans un permis de conduire.

(h) (fermer) __________________ la porte, Marie.

(i) (rester) Depuis quand est-ce que vous __________________ ici.

(j) (partir) Mes amis __________________ déjà __________________ quand mes parents sont rentrés.

20 13. Develop each of the following into a meaningful sentence.

(a) Quelle chance! nous ____

____

(b) Je m'amuse bien quand ____

____

(c) Je regrette que ____

____

(d) Beaucoup de soldats ____

____

(e) Si je gagnais un million de dollars ____

____

(f) Dans la cuisine ____

____

(g) Les OVNI? Non, je ____

____

(h) Quand on fait de la vitesse ____

____

Value

(i) J'en ai assez de ______________________________

____

(j) Je trouve que le français ______________________________

____

20 14. Prepare a composition (about 150 words in French) using the details provided as a guideline. The content of your composition need not be factual, but the composition should be well-organized and coherent. The outline given should be used only as a guide. You are expected to expand on these points and add others of your own to make your composition interesting and complete. Choose one of the following topics:

(a) **Mon Passe-Temps Préfére**
— Quelles activités préféres-tu?
— Aimes-tu lire (chanter, voyager, écouter la musique, etc.)?
— Avec qui?
— Où?
— Comment?
— Quand?
— Pour combien de temps?
— Décris ton passe-temps préféré.
— Penses-tu qu'il est important d'avoir un passe-temps? Pourquoi?

(b) **Le zoo**
— Où il se trouve.
— Quand vous l'avez visité — Avec qui?
— Les animaux que vous avez vus.
— L'animal le plus/moins intéressant. Pourquoi?

(c) **Noël l'année passée**
— Où l'avez-vous fêté?
— Avec qui?
-- Quels cadeaux avez-vous reçus?
— Pourquoi Noël, est-il important? etc.

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

FRENCH 3201

JUNE 1989

Value: 100 marks

Time: 3 hours

Examination Number ____________________

GENERAL INSTRUCTIONS

1. The examination consists of seven items, and candidates are required to do **ALL** items as directed in each.

2. All answers are to be written in this paper. Do not use allotted answer spaces for rough drafts which you may wish to discard.

3. Be sure to write your Examination Number in the space above.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the Chief Supervisor prior to the first session, and have been posted for further reference near the entrance to the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

— Materials required
— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

Value

5 1. Lire le passage et écrire la lettre A, B, ou C, dans le tiret pour identifier le synonyme de l'expression soulignée.

(a) Arrive le mardi soir. Les gens du village **faisaient la fête** ce soir-là.

Dans ce passage, les gens ....(a) __________
(A) étaient tristes.
(B) s'amusaient.
(C) arrivaient tôt.

(b) Quand les garçons ont fait des grimaces, le petit Paul **s'est mis à** pleurer.

Dans ce passage, le petit Paul ....(b) __________
(A) a refusé de pleurer.
(B) a essayé de pleurer.
(C) a commencé à pleurer.

(c) La famille qui est arrivée chez nous ne s'est pas venue le jour de Noël, mais elle est arrivée le **lendemain**.

Dans ce passage, la famille est venue ....(c) __________
(A) la veille de Noël.
(B) le jour avant.
(C) le jour après.

(d) Je veux aussi que mes enfants comprennent d'où vient leur père, de la même façon que je comprends les **origines** du mien.

Dans ce passage, je veux que mes enfants comprennent ....(d) __________
(A) leur patrie.
(B) leur génération.
(C) leurs racines.

(e) Le premier ministre de la province a annoncé que la construction de la route entre Cap St. Georges et La Grand'Terre pourrait **débuter** dans deux ans.

Dans ce passage, on dit que la construction de la route pourrait ....(e) __________
(A) être complétée.
(B) commencer.
(C) être finie.

5 2. Lire le passage et répondre à l'étude des mots.

La Côte d'Azur, vous connaissez **sûrement**? Nice, avec sa promenade des Anglais, Cannes, avec son festival international du film, Monaco, avec son casino . . . C'est une des plus belles régions de France. Les touristes l'adorent.

Saint-Tropez est aussi sur la Côte d'Azur. C'est aussi une station touristique importante. Saint-Tropez est devenue très célèbre lorsque l'actrice française Brigitte Bardot a décidé d'y habiter, il y a une vingtaine d'années.

Pendant les années 60 et 70, Saint-Tropez était très à la mode. Toutes les vedettes françaises y allaient en vacances. Ça faisait très bien de passer ses vacances à "St-Trop", comme disaient les **jeunes** Français. La côte entre les villes de Toulon et de Saint-Tropez est la partie du territoire français la plus ensoleillée (3000 heures du soleil par an).

Cette petite ville d'environ 8000 habitants reçoit près de deux million de touristes par an! Ce qui les attire à Saint-Tropez? Le soleil et la mer, avant tout, la beauté naturelle de la région.

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5 Trouver dans le passage le contraire des expressions suivants et écrire les réponses dans les espaces à droite.

(a) moins ....(a) ____________________

(b) la laideur ....(b) ____________________

(c) mal ....(c) ____________________

Value

Donner un mot de la même famille que le mot en caractères gros et écrire ce mot dans l'espace à droite.

(d) vous connaissez **sûrement** ....(d) ______________________

(e) les **Jeunes** Français..(e) ______________________

10 3. Lire le passage et écrire les mots qui manquent pour le compléter dans les espaces ci-dessous.

Le Bonhomme Carnaval est an gros bonhomme de neige. Il ____(a)____ une tuque rouge et une ceinture fléchée ____(b)____ les Canadiens de l'ancien temps. Mais il est beaucoup ____(c)____ qu'un bonhomme de neige. Il est vivant! Il chante et il danse. Il ____(d)____ du ski et du patin. Il va dans plusieurs villes du Canada et des Etats-Unis et il ____(e)____ les gens à venir à Québec. C'est l'ambassadeur idéal ____(f)____ Carnaval de Québec. Il est si important que le maire de Québec ____(g)____ donne les clefs ____(h)____ la ville le premier jour du Carnaval! Pendant les dix ____(i)____ du Carnaval le Bonhomme ____(j)____ le chef absolu de la ville de Québec. Il participe à toutes les activités.

(a)______________________ (f) ______________________

(b) ______________________ (g) ______________________

(c) ______________________ (h) ______________________

(d)______________________ (i) ______________________

(e)______________________ (j) ______________________

4 4. Lire le passage et répondre aux questions en phrases complètes. Autant que possible, les réponses ne devraient pas être copiées directement du passage.

Parler Mondial

Les langues sont la voie de l'avenir.

Au ministere des Affaires Internationales du Québec, on parle 13 langues. Selon François Bouilhoc, conseiller économique au ministere, "C'est un mythe de penser que les gens d'affaires parlent tous anglais et puis, c'est une question de politesse. La conquête des marchés devient de plus en plus difficile et on se rend compte qu'en parlant la langue du client, on augmente ses chances de conclure une entente."

Quelles sont les langues étrangères qui ouvrent les portes à l'emploi? Selon Joseph Bitton, de la direction de la formation générale au ministre de l'Éducation au Québec, "C'est difficile à évaluer, mais les plus bilingues et les plus trilingues des Québécois sont aussi ceux qui se trouvent en chômage le moins."

Mais attention à ne pas se faire des illusions. "Il existe un grand mythe selon lequel on trouve automatiquement de travail quand on connait une langue étrangère," dit Jean Marchand qui est considéré comme le meilleur interprète du chinois au Canada et qui accompagne les délégations officielles du Québec en Chine. "Il faut avoir d'autres qualifications. Se spécialiser."

Apprend-on vraiment une langue pour son propre avancement professionnel? Pour an Americain qui apprend le français c'est peut-être pour le plaisir de communiquer avec d'autres. Mais les études montrent qu'au Canada bilingue c'est en pensant d'abord à la carrière de leurs enfants que les parents les inscrivent en classes d'immersion française.

Montréal est une des villes les plus multilingues au monde. "Ceux qui veulent y apprendre une nouvelle langue sont favorisés,"dit Bruno Villata, professeur d'italien à l'Université Concordia. "Dans les communautés ethniques, les restaurants et les magasins, ils peuvent parler et s'initier au langage non verbal qui fait aussi partie de la langue."

Value

On dénombre plus de 2000 langues vivantes dans le monde. Par laquelle commencer?

Le chinois est parlé par 900 millions de personnes, l'anglais par 400 millions. Mais le chinois a un sérieux problème! Il est concentré dans un seul pays et est subdivisé en de nombreux dialectes.

Dans les années 60, le rapport Parent racommandait aux canadiens d'étudier le russe, l'arabe et le chinois. Il aurait d'abord fallu savoir pourquoi. "La motivation," dit Bruno Villata, "c'est la base du succès. Si vous tombez en amour avec une Allemande, vous apprenez vite l'allemand."

Mais, selon Pédro Munoz, professeur au CEGEP Maisonneuve, "L'apprentissage d'une langue nécessite toujours un effort." Et comme dit Villata, "On doit apprendre pour le plaisir de communiquer avec les gens." La satisfaction la plus intense, c'est celle de découvrir, un beau jour, qu'on possède une clef permettant d'ouvrir la porte d'un autre monde. "Le plus beau moment?" dit Jean Marchand. "C'était en 1978. J'ai étudié le chinois pendant neuf ans avant de mettre les pieds en Chine. Le premier matin, en sortant de l'hôtel à Pékin, j'ai acheté un journal, pris un taxi, conversé avec les gens. Comme si j'étais chez moi!"

**Extract et adapté d'un article
de L'Actualité par Luc Chartrand

4 (a) Selon ce passage, quels sont les raisons pour apprendre une langue étrangère?

5 (b) Pourquoi est-il plus facile d'apprendre une nouvelle langue à Montréal et non pas à Halifax?

5 (c) Selon Jean Marchand, il est "chez lui" en Chine. Qu'est-ce que cela veut dire?

Value

5 (d) A votre avis, est-il nécessaire de parler une autre langue pour réussir? Pourquoi/Pourquoi pas?

5 (e) Pensez-vous qu'on apprend mieux des autres langues à cause d'avoir appris une langue étrangère?

5. Lire le poème et répondre aux questions en phrases complètes.

Patrie
par
Albert Ferland

Canada! Canada! terre immense et féconde!*
Nouvelle Gaule assise au nord du nouveau monde!
Héroique pays d'espérance et d'honneur!
Sol hyperboréen, qui de l'onde atlantique
Jusqu'aux flots azurés de la mer pacifique,
Déroule, avec orgueil, son altière splendeur!

Canada! Canada! toi que le ciel protège!
Toi que, sous ton manteau de verdure ou de neige,
Dans l'ombre de tes bois verdoyants ou jaunis,
Sur les bords de ton fleuve aux grandes eaux sereines,
Du sommet de tes monts et du sein de tes plaines,
Est pour le Canadien le plus beau des pays!

Gloire à toi, nous t'aimons et l'étranger t'admire!
Gloire à toi, Saint-Laurent, dont je ne saurais dire
La beauté sans amour, ni le nom sans fierté!
Qu'à jamais, fleuve aimé, tes rives nous soient chères
Et rappellent toujours que le sang de nos pères
S'épancha pour ta gloire et pour ta liberté!

---

*fertile

2 (a) Comment est-ce que le poète décrit le Canada? (trois détails)

Value

2 (b) Selon le poète, qu'est-ce que les étrangers pensent du Canada?

2 (c) Quel est le fleuve aimé auquel le poète fait référence?

6 (d) Pour vous, qu'est-ce que c'est que le Canada?

6 (e) Êtes-vous fier (fière) d'être Canadien (Canadienne)?

6. Choisir **TROIS** des points de vue suivants et faire un commentaire en quarante à cinquante mots (40 à 50) pour chacun.

6 (a) L'égoïsme est un vilain défaut.

Value

6 (b) Les idées stéréotypées des français . . . sont-elles justes?

6 (c) Les gens qui quittent leur patrie ne l'oublie jamais.

6 (d) La place de la femme est à la maison.

Value

6 (e) Les jeunes doivent respecter leurs parents.

6 (f) La chanson québécoise reflète la réalité de la vie canadienne française.

Value

7. Choisir **UN** des sujets suivants et écrire une composition (150-170 mots).

(a) Les Canadiens français et leur problème de garder leur identité.

(b) Le rôle de la femme dans la société d'aujourd'hui.

(c) Être jeune…

(d) La France et les Français

(e) L'argent est la source de la liberté

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

ELECTRONICS 3104

JUNE 1989

Value: 100 marks

Time: 2 hours

Examination Number ______________________

GENERAL INSTRUCTIONS

1. The examination consists of objective and essay items, arranged in three sections as follows, and candidates are required to do **ALL** sections as directed in each:

   SECTION A — 50 multiple-choice items — 50%
   SECTION B — 5 short answer items — 20%
   SECTION C — 5 short answer essay items — 30%

2. All answers are to be written in this paper. Do not use allotted answer spaces for rough drafts which you may wish to discard.

3. Be sure to write your Examination Number in the space provided above.

REGULATIONS FOR CANDIDATES

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— Materials required
— Materials not permitted
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— Punctuality
— Leaving the room
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— Completion of required information
— Use of unauthorized means, and penalties

SECTION A

Write the letter of the correct response for each of the following in the blank at the right. Total value: 50%.

1. Which of the following is a positive electric charge? ....(1) ________
(A) ion
(B) proton
(C) nucleus
(D) electron

2. Which of the following best describes current flow? ....(2) ________
(A) greatest at a resistor
(B) the same in all parts of a circuit
(C) the greatest at the negative terminal
(D) decreases to zero at the positive terminal

3. What is the process of twisting stranded wires together and coating them with solder? ....(3) ________
(A) tinning
(B) short circuiting
(C) grounding
(D) charging

4. What are the units of measurement for electromotive force or potential difference? ....(4) ________
(A) amps
(B) volts
(C) ohms
(D) watts

5. What is the specific gravity of a fully charged battery? ....(5) ________
(A) 1.000
(B) 1.100
(C) 1.150
(D) 1.300

6. What is the terminal voltage (in volts) of four D cell batteries connected in parallel? ....(6) ________
(A) 1.5
(B) 2.25
(C) 3.0
(D) 6.0

7. What is the formula for calculating watts in a circuit? ....(7) ________
(A) W = RI
(B) W = EI
(C) W = ER
(D) W = E/R

8. How does AC differ from DC? ....(8) ________
(A) It varies in amplitude.
(B) It is constant in direction.
(C) It is constant in amplitude.
(D) It is a two-directional current.

9. Which one of the following is an example of the 1.5-V flashlight cell? ....(9) ________
(A) dry cell
(B) mercury cell
(C) secondary cell
(D) lead acid cell

10. What is the resistance of a resistor having a colour code of red, violet, orange and gold? ....(10) ________
(A) 2700 ohms ± 5%
(B) 2700 ohms ± 10%
(C) 27000 ohms ± 5%
(D) 27000 ohms ± 10%

11. What is the unit of measurement of inductance? ....(11) ________
(A) ohm
(B) volt
(C) farad
(D) henry

12. A 40-volt source expends 8 watts of energy in a load. What is the resistance of that load (in ohms)? ________ (12) ________
(A) 2
(B) 20
(C) 200
(D) 2000

13. Which one of the following is NOT true for current flow in a wire? ________ (13) ________
(A) As length increases, current increases.
(B) As length decreases, current increares.
(C) As diameter increases, current increases.
(D) As temperature decreases, current decreases.

14. Why does a full-wave rectifier require a centre tapped source? ________ (14) ________
(A) to reduce the output ripple
(B) to increase the output voltage
(C) to increase the output current
(D) to allow conduction on both half cycles

15. What is the unit of measurement of capacitance? ________ (15) ________
(A) ohm
(B) volt
(C) farad
(D) henry

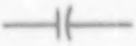
16. Which of the following best describes an inductor? ________ (16) ________
(A) stores voltage
(B) uses power to produce heat
(C) opposes any change in voltage
(D) opposes any change in current

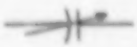
17. How are capacitors connected to increase the capacity of the circuit? ________ (17) ________
(A) in series
(B) in parallel
(C) in series-parallel
(D) across the line

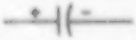
18. What is the number of microamperes in one ampere? ________ (18) ________
(A) 0.000,001
(B) 0.001
(C) 1,000
(D) 1,000,000

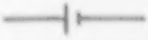
19. When placing certain capacitors in electronic circuits you have to ensure that the polarity is correct. What term correctly describes these capacitors? ________ (19) ________
(A) mica
(B) paper
(C) variable
(D) electrolytic

20. Which of the following is the schematic symbol for a variable capacitor? ________ (20) ________

(A)


(C)


(B)


(D)


21. When resistors are connected in parallel, what happens to the total resistance in a circuit? ________ (21) ________
(A) increases
(B) decreases
(C) remains the same
(D) depends on the voltage

22. What is the reason for using zener regulator circuits? .... (22) ________
(A) to reduce the current
(B) to replace the pi filter circuit
(C) to reduce the output ripple voltage
(D) to reduce the effect of DC voltage variations

23. Why is an electric switch used in a circuit? .... (23) ________
(A) to prevent shocks
(B) to drain excess electrons
(C) to open and close the circuit
(D) to allow the addition of insulators

24. Which instrument produces an electric wave at a given amplitude and frequency? .... (24) ________
(A) VOM
(B) VTVM
(C) oscilloscope
(D) signal generator

25. Which of the following is an example of an application of the transformer? .... (25) ________
(A) thermal energy
(B) self inductance
(C) mutual inductance
(D) AC power transfer

26. Two coils are coupled together. What must be happening to the field around the first coil for voltage to be created in the second coil? .... (26) ________
(A) not changing
(B) decreasing only
(C) increasing only
(D) varying constantly

27. What type of transformer does not have any electrical connection between the secondary windings and the primary windings? .... (27) ________
(A) step-up
(B) isolation
(C) step-down
(D) centre tap

28. It is necessary to use only 12-volt light bulbs in an emergency circuit. If the line voltage is 120 volts, how many light bulbs must be in each series bank? .... (28) ________
(A) 4
(B) 6
(C) 8
(D) 10

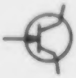
29. What is a device that has low forward resistance and high reverse resistance? .... (29) ________
(A) diode
(B) resistor
(C) capacitor
(D) voltage regulator

30. Which of the following converts sound waves into electrical audio waves? .... (30) ________
(A) head phone
(B) microphone
(C) phonograph
(D) transceiver

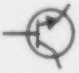
31. What happens to the carrier power when a wave is being amplitude modulated? .... (31) ________
(A) reduces
(B) increases
(C) neutralizes
(D) increases and decreases

32. Which of the following is the schematic symbol for an NPN transistor? .... (32) ________

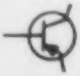
(A)



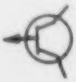
(C)



(B)



(D)



33. How many electrodes are in a diode? .... (33) __________
(A) one
(B) two
(C) three
(D) four

34. How many junctions are in a transistor? .... (34) __________
(A) one
(B) two
(C) three
(D) four

35. What will happen to an SCR if a small AC voltage is applied to the gate, with a negative voltage on the cathode and a positive voltage on the anode? .... (35) __________
(A) not turn on
(B) turn on and stay on
(C) turn off and on
(D) turn off

36. What is the function of the filter in a DC power supply? .... (36) __________
(A) protect the load from voltage surges
(B) minimize the ripple on the DC output
(C) ensure only positive voltage is delivered to the load
(D) remove spikes of the wrong polarity from the output voltage

37. What are the three colours used in a colour picture tube of a television? .... (37) __________
(A) red, green, blue
(B) red, yellow, green
(C) red, yellow, blue
(D) red, white, blue

38. Which of the following is/are mounted around the neck of a picture tube of a television? .... (38) __________
(A) vertical coils
(B) horizontal coils
(C) deflection yoke
(D) flyback transformer

39. What is the value of the intermediate frequency of a standard AM receiver radio? .... (39) __________
(A) 455 hz
(B) 465 hz
(C) 45.5 khz
(D) 455 khz

40. Which of the following is the frequency used by an AM commercial broadcast station? .... (40) __________
(A) 55 - 1600 khz
(B) 55 - 1600 Mhz
(C) 88 - 108 khz
(D) 88 - 108 Mhz

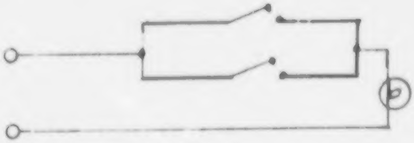
41. What is the process of superimposing an audio wave on a radio frequency wave called? .... (41) __________
(A) modulation
(B) amplication
(C) transmission
(D) reception

42. What will happen to the current in a circuit if the voltage is decreased and the resistance remains the same? ... (42) __________
(A) decreases
(B) increases
(C) remains the same
(D) decreases if the capacitance increases

43. What is the instrument used by technicians to observe waveforms in an electric circuit? .... (43) __________
(A) VTVM
(B) oscilloscope
(C) signal generator
(D) Wheatstone bridge

44. What is the decimal number for 110110 (binary)? .... (44) __________
(A) 32
(B) 38
(C) 46
(D) 54

45. Which logic circuit does the following diagram represent? ....(45) ________



(A) OR gate
(B) AND gate
(C) NOR gate
(D) NAND gate

46. What process is used to dope an integrated circuit? ....(46) ________
(A) fusion
(B) welding
(C) pressure
(D) diffusion

47. What transistor circuit is used to match high impedence to low impedence? ....(47) ________
(A) common base
(B) floating base
(C) common emitter
(D) common collector

48. Which of the following statements is true for both figure A and figure B? ....(48) ________

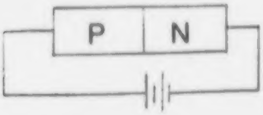


Figure A

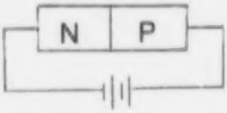
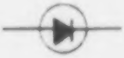


Figure B

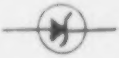
(A) A is forward and B is reverse biased.
(B) B is forward and A is reverse biased.
(C) Both A and B are forward biased.
(D) Both A and B are reverse biased.

49. Which of the following is the schematic symbol for a LED diode? ....(49) ________

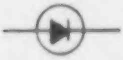
(A)



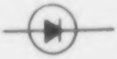
(C)



(B)



(D)



50. What type of electric circuit will provide an output of 1 (yes) when either one or the other of its outputs is 1 (yes)? ....(50) ________
(A) NAND gate
(B) OR gate
(C) AND gate
(D) NOR gate

Value

SECTION B

Do **ALL** items in this section as directed in each. Total value: 20%.

10 51. Draw the correct schematic symbol for each of the following electronic components.

(a) Potentiometer

(f) Voltmeter

(b) Centre Tapped Transformer

(g) Photo Diode

(c) Fuse

(h) NOR Gate

(d) Battery (9V)

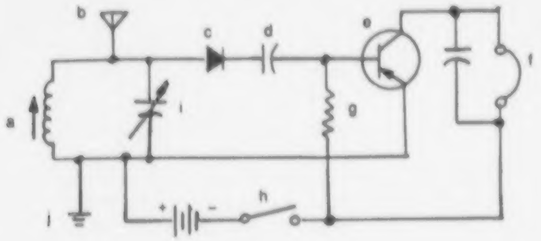
(i) Ground Connection

(e) Silicon Controlled Rectifier (SCR)

(j) Zener Diode

Value

5 52. In the blank spaces below, identify the ten components (a-j) in the following schematic.



(a) ______________________

(b) ______________________

(c) ______________________

(d) ______________________

(e) ______________________

(f) ______________________

(g) ______________________

(h) ______________________

(i) ______________________

(j) ______________________

5 53. Indicate whether each of the following statements is TRUE or FALSE by circling T or F at the right of the statement.

(a) The formula $A + B$ is indicative of an NOR gate. .... (a) T F

(b) A 150-W soldering gun would be the ideal tool for working on PCB's. .... (b) T F

(c) Eye protection gear (goggles) should always be worn when soldering. .... (c) T F

(d) The first component in a power supply is normally a diode. .... (d) T F

(e) Diodes/rectifiers are usually rated according to their resistance and peak reverse current. . (e) T F

(f) A conductor has high resistance to current flow. .... (f) T F

(g) I.F. stands for intermittent frequency. .... (g) T F

(h) The correct name for a television picture tube is a cathode ray tube. .... (h) T F

(i) In a series circuit, the current is always the same no matter at what position it is measured. .... (i) T F

(j) The formula for capacitors in series is $C_T = C_1 + C_2 + C_3$ etc. .... (j) T F

Value

SECTION C

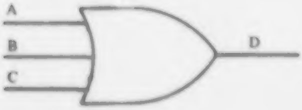
Do **ALL** items in this section as directed in each. Write your responses in the spaces on this paper. Total value: 30%.

54. Do any **TWO** of parts (a), (b) and (c).

5 (a) Draw a diagram of four 1.5-volt cells in series and calculate the terminal voltage.

5 (b) Draw a block diagram of an NPN transistor showing bias batteries connected with proper polarity.

5 (c) Write the Boolean equation for the following:

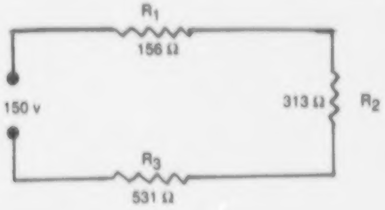


____

Value

55. Do any **TWO** of parts (a), (b) and (c).

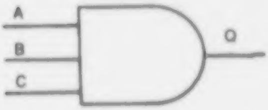
5 (a) In the following circuit, calculate the total resistance, total current and the power dissipated by the circuit.



5 (b) Four resistors of 1000 ohms, 2600 ohms, 4800 ohms and 1600 ohms are connected in series. If a potential of 2.5k volts is applied, calculate the total resistance, total current, and the voltage drop across each resistor.

5 (c) Complete the following truth tables:

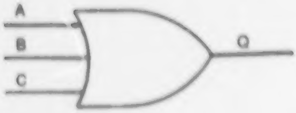
(i)



A	B	C	Q

Value

(ii)



A	B	C	Q

56. Do any **TWO** of parts (a), (b) and (c).

5 (a) List five pieces of test equipment that an electronic technician uses in order to check electronic equipment.

(i)

(ii)

(iii)

(iv)

(v)

5 (b) Give a brief description of how you would go about planning a career in electronics.

5 (c) Give a brief description of how electronics is used today in the communication industry.

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

STATISTICS 3104

JUNE 1989

PART I

Value: 40 marks　　　　Time: 45 minutes

Examination Number ______________________

GENERAL INSTRUCTIONS

1. Part I consists of objective items only, arranged in two sections, as follows:

   SECTION A — 20 completion items — 20%
   SECTION B — 20 multiple choice items — 20%

2. Candidates are to do all items, and answers are to be written in this paper.

3. A list of statistics formulae and a table for the area under the standard normal curve are provided for your reference, and calculators may be used if desired.

4. Be sure to write your Examination Number in the space above.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the Chief Supervisor prior to the first session, and have been posted for further reference near the entrance to the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

— Materials required
— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

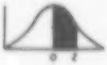


TABLE FOR THE AREA UNDER THE STANDARD NORMAL DISTRIBUTION CURVE

z score	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.0000	0.0040	0.0080	0.0120	0.0160	0.0199	0.0239	0.0279	0.0319	0.0359
0.1	0.0398	0.0438	0.0478	0.0517	0.0557	0.0596	0.0636	0.0675	0.0714	0.0754
0.2	0.0793	0.0832	0.0871	0.0910	0.0948	0.0987	0.1026	0.1064	0.1103	0.1141
0.3	0.1179	0.1217	0.1255	0.1293	0.1331	0.1368	0.1406	0.1443	0.1480	0.1517
0.4	0.1554	0.1591	0.1628	0.1664	0.1700	0.1736	0.1772	0.1808	0.1844	0.1879
0.5	0.1915	0.1950	0.1985	0.2019	0.2054	0.2088	0.2123	0.2157	0.2190	0.2224
0.6	0.2258	0.2291	0.2324	0.2357	0.2389	0.2422	0.2454	0.2486	0.2518	0.2549
0.7	0.2580	0.2612	0.2642	0.2673	0.2704	0.2734	0.2764	0.2794	0.2823	0.2852
0.8	0.2881	0.2910	0.2939	0.2967	0.2996	0.3023	0.3051	0.3078	0.3106	0.3133
0.9	0.3159	0.3186	0.3212	0.3238	0.3264	0.3289	0.3315	0.3340	0.3365	0.3389
1.0	0.3413	0.3438	0.3461	0.3485	0.3508	0.3531	0.3554	0.3577	0.3599	0.3621
1.1	0.3643	0.3665	0.3686	0.3708	0.3729	0.3749	0.3770	0.3790	0.3810	0.3830
1.2	0.3849	0.3869	0.3888	0.3907	0.3925	0.3944	0.3962	0.3980	0.3997	0.4015
1.3	0.4032	0.4049	0.4066	0.4082	0.4099	0.4115	0.4131	0.4147	0.4162	0.4177
1.4	0.4192	0.4207	0.4222	0.4236	0.4251	0.4265	0.4279	0.4292	0.4306	0.4319
1.5	0.4332	0.4345	0.4357	0.4370	0.4382	0.4394	0.4406	0.4418	0.4429	0.4441
1.6	0.4452	0.4463	0.4474	0.4484	0.4495	0.4505	0.4515	0.4525	0.4535	0.4545
1.7	0.4554	0.4564	0.4573	0.4582	0.4591	0.4599	0.4608	0.4616	0.4625	0.4633
1.8	0.4641	0.4649	0.4656	0.4664	0.4671	0.4678	0.4686	0.4693	0.4699	0.4706
1.9	0.4713	0.4719	0.4726	0.4732	0.4738	0.4744	0.4750	0.4756	0.4761	0.4767

z score	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
2.0	0.4772	0.4778	0.4783	0.4788	0.4793	0.4798	0.4803	0.4808	0.4812	0.4817
2.1	0.4821	0.4826	0.4830	0.4834	0.4838	0.4842	0.4846	0.4850	0.4854	0.4857
2.2	0.4861	0.4864	0.4868	0.4871	0.4875	0.4878	0.4881	0.4884	0.4887	0.4890
2.3	0.4893	0.4896	0.4898	0.4901	0.4904	0.4906	0.4909	0.4911	0.4913	0.4916
2.4	0.4918	0.4920	0.4922	0.4925	0.4927	0.4929	0.4931	0.4932	0.4934	0.4936
2.5	0.4938	0.4940	0.4941	0.4943	0.4945	0.4946	0.4948	0.4949	0.4951	0.4952
2.6	0.4953	0.4955	0.4956	0.4957	0.4959	0.4960	0.4961	0.4962	0.4963	0.4964
2.7	0.4965	0.4966	0.4967	0.4968	0.4969	0.4970	0.4971	0.4972	0.4973	0.4974
2.8	0.4974	0.4975	0.4976	0.4977	0.4977	0.4978	0.4979	0.4979	0.4980	0.4981
2.9	0.4981	0.4982	0.4982	0.4983	0.4984	0.4984	0.4985	0.4985	0.4986	0.4986
3.0	0.4987	0.4987	0.4987	0.4988	0.4988	0.4989	0.4989	0.4989	0.4990	0.4990
3.1	0.4990	0.4991	0.4991	0.4991	0.4992	0.4992	0.4992	0.4992	0.4993	0.4993
3.2	0.4993	0.4993	0.4994	0.4994	0.4994	0.4994	0.4994	0.4995	0.4995	0.4995
3.3	0.4995	0.4995	0.4995	0.4996	0.4996	0.4996	0.4996	0.4996	0.4996	0.4997
3.4	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4998
3.5	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998
3.6	0.4998	0.4998	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999
3.7	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999
3.8	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999
3.9	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000

FORMULAE

$$\overline{X} = \frac{1}{n} \sum_{i=1}^{n} X_i$$

$$\overline{X} = \frac{\sum_{i=1}^{n} X_i \cdot F(X_i)}{\sum_{i=1}^{n} F(X_i)}$$

$$Z = \frac{x - \mu}{\sigma}$$

$$S_X = \sqrt{\frac{\sum_{i=1}^{n} (X_i - \overline{X})^2 \cdot F(X_i)}{\sum_{i=1}^{n} F(X_i)}}$$

$$\text{Mean Deviation} = \frac{\sum_{i=1}^{n} |X - \overline{X}|}{n}$$

$$\text{Skewness} = \frac{3\,(\text{mean} - \text{median})}{\sigma}$$

$$S_X = \sqrt{\frac{\sum_{i=1}^{n} (X_i - \overline{X})^2}{n}}$$

SECTION A

Do **ALL** of the following by writing the correct response for each in the blank at the right. Total value: 20%

1. What is the name given to a graph consisting of a series of vertical bars, each representing a set of data? .... (1) ____________

2. When data are arranged from smallest to largest, what is the middle number called? .... (2) ____________

3. What is the range of the following set of data? .... (3) ____________
   15 7 9 20 30 8 28

4. What term describes a sample in which each member of the population has an equal chance of being selected? .... (4) ____________

5. When a pair of ordinary dice are rolled, what is the probability that the sum of the markers showing will be 12? .... (5) ____________

6. What term is used to describe the most frequently occurring member of a set of data? ... (6) ____________

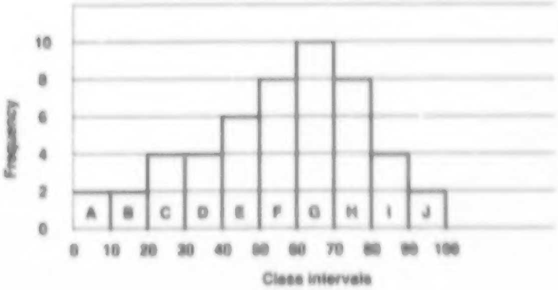
7. The chance of winning a lottery is an example of what type of probability? .... (7) ____________

8. What is the name for a value obtained from the sampled data? .... (8) ____________

9. What term describes the process of using samples to reach conclusions about populations from which the samples were drawn? .... (9) ____________

DO ITEMS 10, 11 AND 12 BASED ON THE FIGURE BELOW

STATISTICS EXAM MARKS



10. How many students wrote the statistics exam? .... (10) ____________

11. Calculate F(35) + F(75) .... (11) ____________

12. What percent of the outcomes are in Class G? .... (12) ____________

13. When two tickets are drawn from a total of 40, what is the probability that ticket #25 and ticket #16 will be selected in that order? (The first ticket drawn is not returned. .... (13) ____________

14. What is the name for a set of data having two modes? .... (14) ____________

15. If one of the letters of the word STATISTICS is chosen at random, what is the probability that it is an S? .... (15) ____________

16. In a normal distribution, what percent of the data lies within one standard deviation of the mean? .... (16) ____________

17. What name is given to a peaked distribution? .... (17) ____________

USE THE TABLE FOR AREA UNDER THE CURVE FOR THE STANDARD NORMAL DISTRIBUTION TO DO ITEMS 18 AND 19.

18. Find P(z) for $z \geq 1.63$. .... (18) ____________

19. Find P(z) for $-1.45 \leq z \leq 1.45$. .... (19) ____________

20. On a standardized aptitude test having a mean of 60 and a standard deviation of 7, Joe obtained a z-score of 1. What was Joe's raw score? .... (20) ____________

SECTION B

Do **ALL** items in this section by writing the letter of the correct response for each in the blank at the right. Total value: 20%.

21. What type of sampling on a production line would best be suited to testing the strength of a metal support? ....(21) ________
(A) biased
(B) clustered
(C) destructive
(D) stratified

22. Which of the following is true for a normal distribution? .... (22) ________
(A) mean is between the median and the mode
(B) median is between the mean and the mode
(C) mode is between the mean and the median
(D) mean, median and mode are all of equal value

23. Which of the following events is an example of statistical probability? .... (23) ________
(A) tossing heads on a coin
(B) rolling a sum of seven on a pair of dice
(C) 95% passing of the students writing this exam
(D) next year being 1990

24. A survey was taken to determine the type of margarine preferred by Newfoundlanders. In a random sample of 150 families interviewed, 80 preferred type A, 60 preferred type B, and 10 preferred type C. If there were 3000 packages of margarine sold by a particular supermarket in one day, how many of these would you expect to be type B? .... (24) ________
(A) 200
(B) 400
(C) 1200
(D) 1600

25. When two coins are tossed, which of the following is most likely to occur? .... (25) ________
(A) two tails
(B) two heads
(C) one head and one tail
(D) not both tails

26. For a pair of dice, what are the odds in favour of rolling a sum of seven? .... (26) ________
(A) 1/6
(B) 1/5
(C) 1/2
(D) 5/6

27. From a bag containing 3 black cubes, 4 red cubes and 5 blue cubes, what is the probability of choosing a green cube? .... (27) ________
(A) 0
(B) 1/4
(C) 1/3
(D) 1

28. In a group of 25 scores, the smallest is increased by 50 and the largest is decreased by 25. What effect does this have on the mean? .... (28) ________
(A) increased by 1
(B) increased by 3
(C) decreased by 1
(D) decreased by 3

29. In a survey designed to determine how people across Newfoundland feel about increasing the drinking age, what type of sampling would be most appropriate? .... (29) ________
(A) biased
(B) clustered
(C) destructive
(D) stratified

30. What characteristic of a distribution does x represent in the following formula? .... (30) ________

$$z = \frac{x - \mu}{\sigma}$$

(A) value of a variable
(B) mean
(C) standard deviation
(D) sum of all the values

31. For the following scores, what is the median? .... (31) ________

Score x_i	1	2	3	4	5	6
Frequency $f(x_i)$	2	2	4	4	2	1

(A) 2
(B) 3
(C) 4
(D) 5

32. Four balls are placed in a bag. If three balls are to be picked (with the one drawn replaced before the next draw), what is the probability that the same ball will be selected all three times? .... (32) ________
(A) 1/64
(B) 1/24
(C) 1/16
(D) 1/6

33. Which of the following terms is associated with the bell curve? .... (33) ________
(A) leptokurtic
(B) mesokurtic
(C) platykurtic
(D) skewed

34. A bag contains 3 black cubes, 6 red cubes, 7 white cubes and 5 yellow cubes. If one cube is selected, which of the following is it most likely to be? .... (34) ________
(A) a red or a black cube
(B) a black or a white cube
(C) a white or a red cube
(D) a white or a yellow cube

35. In a standard normal distribution, what is assumed to be the total area under the curve? .... (35) ________
(A) 0
(B) 1
(C) 10
(D) 100

36. Which measure of central tendency would be used to determine the favourite song of Canadians between the ages of 25 and 35? .... (36) ________
(A) median
(B) mean
(C) mode
(D) range

37. The pulse rates for 10 students are recorded as follows:

Student	A	B	C	D	E	F	G	H	I	J
Pulse Rate	63	68	64	65	70	72	74	72	64	65

Based on this information, if a twelfth student were tested, in which range would you expect the pulse rate to occur? .... (37) ________
(A) 60 - 64
(B) 65 - 69
(C) 70 - 74
(D) 75 - 79

38. A set of data contains an even number of values. Which measure of central tendency must be included in the set of data values? .... (38) ________
(A) mean
(B) median
(C) mode
(D) range

39. If 95% of the data values in a normal distribution occur between 56 and 84 with a mean of 70, what is the standard deviation? .... (39) ________
(A) 3
(B) 3.5
(C) 7
(D) 14

40. What are the extreme values in a set of data called? .... (40) ________
(A) class frequency
(B) class intervals
(C) class limits
(D) class numbers

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

STATISTICS 3104

JUNE 1989

PART II

Value: 60 marks

Time: 1 hour, 15 minutes

GENERAL INSTRUCTIONS

1. Part II consists of essay items only arranged in two sections with requirements as follows:

   SECTION A — Do ALL items as directed — 45%
   SECTION B — Do any ONE complete item — 15%

2. A list of statistics formulae and a table for the area under the standard normal distribution curve are provided for your reference, and calculators may be used if desired. Also, two sheets of graph paper are provided for your use as directed within.

3. Candidates are reminded to show all necessary steps and calculations as credit may be given for incomplete or partially correct solutions. Correct answers without calculations will not merit full marks. Candidates using calculators are especially reminded of this requirement.

4. Answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

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— Materials not permitted
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— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

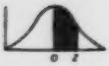


TABLE FOR THE AREA UNDER THE STANDARD NORMAL DISTRIBUTION CURVE

z score	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.0000	0.0040	0.0080	0.0120	0.0160	0.0199	0.0239	0.0279	0.0319	0.0359
0.1	0.0398	0.0438	0.0478	0.0517	0.0557	0.0596	0.0636	0.0675	0.0714	0.0754
0.2	0.0793	0.0832	0.0871	0.0910	0.0948	0.0987	0.1026	0.1064	0.1103	0.1141
0.3	0.1179	0.1217	0.1255	0.1293	0.1331	0.1368	0.1406	0.1443	0.1480	0.1517
0.4	0.1554	0.1591	0.1628	0.1664	0.1700	0.1736	0.1772	0.1808	0.1844	0.1879
0.5	0.1915	0.1950	0.1985	0.2019	0.2054	0.2088	0.2123	0.2157	0.2190	0.2224
0.6	0.2257	0.2291	0.2324	0.2357	0.2389	0.2422	0.2454	0.2486	0.2518	0.2549
0.7	0.2580	0.2612	0.2642	0.2673	0.2704	0.2734	0.2764	0.2794	0.2823	0.2852
0.8	0.2881	0.2910	0.2939	0.2967	0.2995	0.3023	0.3051	0.3078	0.3106	0.3133
0.9	0.3159	0.3186	0.3212	0.3238	0.3264	0.3289	0.3315	0.3340	0.3365	0.3389
1.0	0.3413	0.3438	0.3461	0.3485	0.3508	0.3531	0.3554	0.3577	0.3599	0.3621
1.1	0.3643	0.3665	0.3686	0.3708	0.3729	0.3749	0.3770	0.3790	0.3810	0.3830
1.2	0.3849	0.3869	0.3888	0.3907	0.3925	0.3944	0.3962	0.3980	0.3997	0.4015
1.3	0.4032	0.4049	0.4066	0.4082	0.4099	0.4115	0.4131	0.4147	0.4162	0.4177
1.4	0.4192	0.4207	0.4222	0.4236	0.4251	0.4265	0.4279	0.4292	0.4306	0.4319
1.5	0.4332	0.4345	0.4357	0.4370	0.4382	0.4394	0.4406	0.4418	0.4429	0.4441
1.6	0.4452	0.4463	0.4474	0.4484	0.4495	0.4505	0.4515	0.4525	0.4535	0.4545
1.7	0.4554	0.4564	0.4573	0.4582	0.4591	0.4599	0.4608	0.4616	0.4625	0.4633
1.8	0.4641	0.4649	0.4656	0.4664	0.4671	0.4678	0.4686	0.4693	0.4699	0.4706
1.9	0.4713	0.4719	0.4726	0.4732	0.4738	0.4744	0.4750	0.4756	0.4761	0.4767

z score	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
2.0	0.4772	0.4778	0.4783	0.4788	0.4793	0.4798	0.4803	0.4808	0.4812	0.4817
2.1	0.4821	0.4826	0.4830	0.4834	0.4838	0.4842	0.4846	0.4850	0.4854	0.4857
2.2	0.4861	0.4864	0.4868	0.4871	0.4875	0.4878	0.4881	0.4884	0.4887	0.4890
2.3	0.4893	0.4896	0.4898	0.4901	0.4904	0.4906	0.4909	0.4911	0.4913	0.4916
2.4	0.4918	0.4920	0.4922	0.4925	0.4927	0.4929	0.4931	0.4932	0.4934	0.4936
2.5	0.4938	0.4940	0.4941	0.4943	0.4945	0.4946	0.4948	0.4949	0.4951	0.4952
2.6	0.4953	0.4955	0.4956	0.4957	0.4959	0.4960	0.4961	0.4962	0.4963	0.4964
2.7	0.4965	0.4966	0.4967	0.4968	0.4969	0.4970	0.4971	0.4972	0.4973	0.4974
2.8	0.4974	0.4975	0.4976	0.4977	0.4977	0.4978	0.4979	0.4979	0.4980	0.4981
2.9	0.4981	0.4982	0.4982	0.4983	0.4984	0.4984	0.4985	0.4985	0.4986	0.4986
3.0	0.4987	0.4987	0.4987	0.4988	0.4988	0.4989	0.4989	0.4989	0.4990	0.4990
3.1	0.4990	0.4991	0.4991	0.4991	0.4992	0.4992	0.4992	0.4992	0.4993	0.4993
3.2	0.4993	0.4993	0.4994	0.4994	0.4994	0.4994	0.4994	0.4995	0.4995	0.4995
3.3	0.4995	0.4995	0.4995	0.4996	0.4996	0.4996	0.4996	0.4996	0.4996	0.4997
3.4	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4998
3.5	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998
3.6	0.4998	0.4998	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999
3.7	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999
3.8	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999
3.9	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000

FORMULAE

$$\overline{X} = \frac{1}{n} \sum_{i=1}^{n} X_i$$

$$\overline{X} = \frac{\sum\limits_{i=1}^{n} X_i \cdot F(X_i)}{\sum\limits_{i=1}^{n} F(X_i)}$$

$$Z = \frac{x - \mu}{\sigma}$$

$$S_X = \sqrt{\frac{\sum\limits_{i=1}^{n} (X_i - \overline{X})^2 \cdot F(X_i)}{\sum\limits_{i=1}^{n} F(X_i)}}$$

$$\text{Mean Deviation} = \frac{\sum\limits_{i=1}^{n} |X - \overline{X}|}{n}$$

$$S_X = \sqrt{\frac{\sum\limits_{i=1}^{n} (X_i - \overline{X})^2}{n}}$$

$$\text{Skewness} = \frac{3\,(\text{mean} - \text{median})}{\sigma}$$

SECTION A

Value

Do **ALL** items in this section. Total value: 45%.

3 1. (a) List the **THREE** steps involved in compiling statistics.

(b) A survey was made to determine the age in years of fishing vessels at an outport wharf. Thirty vessels were chosen at random. The results were as follows:

5 4 3 6 2 5 9 5 1 3 7 3 5 1 4
3 4 7 5 6 2 4 10 5 10 3 8 6 2 2

2 (i) Construct a frequency distribution table for the data.

2 (ii) Construct a histogram for the above data.

2 (iii) Using the same axes as in (ii), draw a frequency polygon.

1 (iv) If there were 150 fishing vessels at the wharf, how many boats would you expect to be four years old or younger?

2. The following table shows the results of a statistics test given to a group of students:

Interval	Frequency
20 - 30	1
30 - 40	2
40 - 50	4
50 - 60	8
60 - 70	7
70 - 80	3
80 - 90	2
90 - 100	2

Prepare a table for the above information, and use it to calculate the following:

3 (a) the mean score for the above data

4 (b) the standard deviation for the above data

3. For packaged chocolates the mean mass is to be 40 g. The standard deviation is 1.5 g.

4 (a) Draw and label a normal distribution to illustrate the above information.

2 (b) If, for a production run, 10 000 chocolates were produced, how many should be within 1.5 g of the required mass?

3 (c) On the same set of axes, sketch graphs to illustrate the three degrees of kurtosis.

4 4. (a) Packaged candy are supposed to contain 110 candy. An actual study showed that the bags contained an average of 106 candy with a standard deviation of 7 candy. What is the probability that a bag will contain fewer than 110 candy?

5 (b) Construct a sample space for tossing 4 coins, and give the probability for the following outcomes:

(i) three heads and one tail (any order)

(ii) all heads

2 (c) On an examination the mean mark was 60 and the standard deviation was 4. If Stephen had an exam mark of 67, what was his z-score?

(d) **EITHER**

For cards drawn at random from a well-shuffled deck of 52 playing cards:

2 (i) What is the probability of drawing a black card?

2 (ii) What is the probability of NOT drawing a King or Queen?

Value

2 (iii) What are the odds in favour of drawing a black Ace?

2 (iv) What are the odds against drawing a Jack?

OR

For cubes drawn at random from a bag containing 8 red cubes (numbered 1 to 8), 8 green cubes (numbered 1 to 8), and 8 blue cubes (numbered 1 to 8):

2 (i) What are the odds in favour of drawing a 1, 2, or 3?

2 (ii) What is the probability of drawing a blue 7 followed by a red cube? (The first is returned before the second draw.)

2 (iii) What is the probability of drawing a 6, 7, and 8 in that order if the balls are not returned after being selected?

2 (iv) What is the probability of drawing a 6, 7, and 8 in any order if the balls are returned after being selected?

SECTION B

Do any **ONE** complete item in this section. Total value: 15%.

5. A family decided to record the average monthly temperature and the cost of the electricity bill for one year. The results are as follows:

Month	Average Temperature (°C)	Cost of Electricity ($)
January	2.0	350
February	3.6	315
March	6.4	235
April	7.6	180
May	11.2	120
June	16.8	90
July	17.6	75
August	15.6	95
September	14.0	110
October	13.2	115
November	9.6	150
December	3.2	330

4 (a) On the graph paper provided, draw a scatter diagram using the horizontal axis for the average monthly temperatures and the vertical axis for the cost of electricity.

2 (b) Find the coordinates of one point through which the line of best fit must pass.

3 (c) Draw the line of best fit.

2 (d) Estimate the cost of the electricity bill if the average temperature was 0°C.

2 (e) Describe the type and degree of correlation shown by the graph.

2 (f) Sketch a scatter diagram showing no correlation.

Value

6. (a) Evaluate each of the following:

2 (i) $\dfrac{7!}{5!\ 2!}$

2 (ii) $_6P_4$

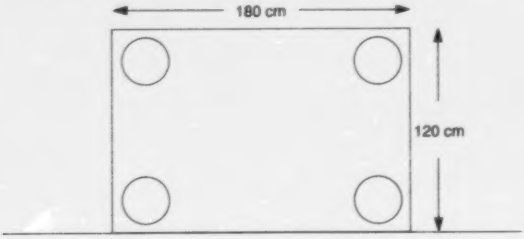
2 (iii) $_6C_4$

3 (b) How many different 11-member football teams can be formed from a possible 20 players if each player can play any position?

3 (c) John has 10 single dollar bills of which 3 are counterfeit. If he selects 4 of them at random, what is the number of ways of getting 2 good bills and 2 counterfeit bills?

3 (d) How many numbers less than 400 can be formed from even digits if the first digit of any number must be non-zero and repetition is not allowed?

6 7. (a) A hockey net is 180 cm wide and 120 cm high. A circular target with a radius of 15 cm is suspended in each corner of the net, as indicated in the diagram below. If a player, while falling, shoots the puck and his shot is on the net, what is the probability that it strikes one of the targets?



(b) A tow truck operator has been notified that there has been an accident on a 40-km stretch of the Trans Canada Highway between point X and point Y. Find the probability that the accident is located at each of the following points:

2 (i) less than 5 km from point X

2 (ii) between 10 km from point X and 15 km from point Y

(c) Suppose that in outer space there exist creatures in which purple eyes, P, are dominant to yellow eyes, p, and that two purple-eyed creatures, both with genotypes, (Pp), mate.

3 (i) Construct a probability model showing the various genotypes of the offspring produced.

2 (ii) If only one offspring is produced, what is the probability that it will have yellow eyes?

2 8. (a) What is GNP? How is the adjusted GNP calculated?

2 (b) How does CPI differ from the cost of living allowance?

3 (c) If home heating oil cost 40¢ a litre in 1986 (base year) and 48¢ a litre in 1988, what is the oil index for 1988?

2 (d) What is meant by "seasonally adjusted" unemployment rate?

2 (e) Define "Labour Force".

2 (f) What are the two common causes of inflation?

2 (g) A car that sold for $10 500 last year sold for $11 200 this year. Calculate the inflation rate to the nearest tenth of a percent.

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

ADVANCED MATHEMATICS 3201

JUNE 1989

PART I

Value: 40 marks

Time: 1 hour

Examination Number ______________________

GENERAL INSTRUCTIONS

1. Part I consists of 40 objective items, and candidates are required to do **all** items.
2. A self-powered calculator may be used for calculations and to obtain special values.
3. Answers are to be written in this paper.
4. Be sure to write your Examination Number in the space provided above.

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— Completion of required information
— Use of unauthorized means, and penalties

SECTION A

Write the letter of the correct response for each of the following in the blank at the right. Total value: 20%.

1. What cubic polynomial has zeros as follows: $\{-2, -1, 0\}$? ....(1) ________

(A) $(x+2)(x+1)(2x^2)$

(B) $(2x+1)(x+2)(2x)$

(C) $(2x+4)(x+1)(3x)$

(D) $(x-2)(x-1)(x)$

2. If $P(x) = 2x^2 - 1$, what is $P(1-x)$? ....(2) ________

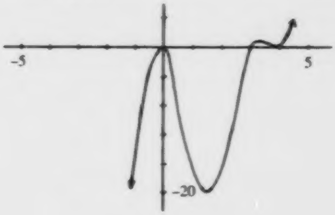
(A) $2x^2 - 4x - 1$

(B) $-2x^2 - 4x - 1$

(C) $-2x^2 - 4x + 1$

(D) $2x^2 - 4x + 1$

3. Identify the equation for the following graph: ....(3) ________



(A) $y = -(x-3)(x-4)^2(x^2)$

(B) $y = (x+3)(x+4)^2(x^2)$

(C) $y = (x-3)(x-4)^2(x^2)$

(D) $y = -(x+3)(x+4)^2(x^2)$

4. What is the remainder when the polynomial $x^{15} + 3x^{10} + 3$ is divided by $x - 1$? ....(4) ________

(A) 7

(B) 5

(C) 3

(D) –1

5. Identify a single logarithmic form for the following expression: ....(5) ________

$$\log_4 3 - 3\log_4 2 + \log_4 3\pi$$

(A) $\log_4 3\pi/2$

(B) $\log_4 9\pi/8$

(C) $\log_4 15\pi$

(D) $\log_4 3/8\pi$

6. What is the value of $\log 100\sqrt[4]{10}$? .... (6) __________

(A) $10^{100\sqrt[4]{10}}$

(B) $(100\sqrt[4]{10})^{10}$

(C) $100\sqrt[4]{10}$

(D) 9/4

7. What is the domain of the logarithmic function, $y = \log(x - 1)$? .... (7) __________

(A) $\{ x \mid x \in \mathbb{R} \}$

(B) $\{ x \mid x > 1 \}$

(C) $\{ x \mid x \geq 1 \}$

(D) $\{ x \mid x \geq 0 \}$

8. A central ellipse is defined by the equation below. If it is translated 4 units right and 2 units down, what is its equation? .... (8) __________

$$\frac{x^2}{64} + \frac{y^2}{36} = 1$$

(A) $\dfrac{(x+4)^2}{36} + \dfrac{(y-2)^2}{64} = 1$

(B) $\dfrac{(x-4)^2}{64} + \dfrac{(y+2)^2}{36} = 1$

(C) $\dfrac{(x-4)^2}{36} + \dfrac{(y+2)^2}{64} = 1$

(D) $\dfrac{(x-4)^2}{64} + \dfrac{(y-2)^2}{36} = 1$

9. What is the eccentricity for the following hyperbola? .... (9) __________

$$\frac{y^2}{9} - \frac{x^2}{36} = 1$$

(A) $\sqrt{5}$

(B) 1/2

(C) 2

(D) $\sqrt{5}/5$

10. What is the focus of the parabola having the following equation? .... (10) __________

$$y - 1 = 1/4\,(x - 2)^2$$

(A) (2, 1)

(B) (1, 2)

(C) (2, 2)

(D) (−1, −2)

11. What is the equation if the circle with centre (2, –3) and line $y = 2$ tangent to it? ....(11) ________

(A) $(x + 2)^2 + (y - 3)^2 = 25$

(B) $(x - 2)^2 + (y - 3)^2 = 25$

(C) $(x - 2)^2 + (y - 3)^2 = 25$

(D) $(x - 2)^2 + (y + 3)^2 = 25$

12. If x is a fourth-quadrant angle, and $\sin x = -12/13$, what is $\cot x$? ....(12) ________

(A) 5/13

(B) – 12/5

(C) – 5/12

(D) 12/5

13. What is the exact value of $\cos(-225^\circ)$? ....(13) ________

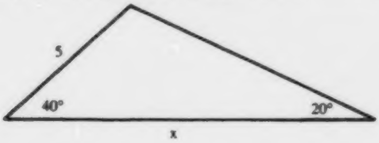
(A) – .7071

(B) .8660

(C) $-\sqrt{3}/2$

(D) $-\sqrt{2}/2$

14. Which of the following may be used to calculate x in the diagram below? ....(14) ________



(A) $\dfrac{\sin 120^\circ}{x} = \dfrac{\sin 20^\circ}{5}$

(B) $\dfrac{\sin 20^\circ}{x} = \dfrac{\sin 40^\circ}{5}$

(C) $\dfrac{\sin 40^\circ}{x} = \dfrac{\sin 20^\circ}{5}$

(D) $\dfrac{\sin 20^\circ}{x} = \dfrac{\sin 120^\circ}{5}$

15. In the interval $-\pi \le x \le \pi$, how many times does the graph of $y = \cos x$ cross the x-axis? ....(15) ________

(A) 0

(B) 2

(C) 4

(D) 6

16. If $g(x) = -4 \sin (x/2)$, what is the amplitude of $g(x)$? ....(16) ________

(A) 2

(B) 1/2

(C) 4

(D) 1/4

17. Complete the following: $1 + \cot^2 x = \underline{\ ?\ }$ ....(17) ________

(A) $\sin^2 x$

(B) $\sec^2 x$

(C) $\csc^2 x$

(D) $\tan^2 x$

18. What is the exact value of $\cos 105° \cos 15° - \sin 105° \sin 15°$? ....(18) ________

(A) 0

(B) -0.5

(C) $-\sqrt{3}/2$

(D) $\dfrac{\sqrt{3} - 1}{2}$

19. What is the exact value of arccos 0? ....(19) ________

(A) $3\pi/2$

(B) $\pi/2$

(C) π

(D) $2\pi/3$

20. How many times is the function $y = \tan x$ undefined over the interval $0 \le x < 2\pi$? ....(20) ________

(A) none

(B) two

(C) three

(D) four

SECTION B

Write the correct response for each of the following in the blank at the right. Total value: 20%.

21. Find the cubic equation if two of its roots are 2 and 3i. ....(21) ________

22. Indicate the zeros of the following polynomial equation: ....(22) ________

$$x^4 - 10x^2 + 9 = 0$$

23. If $g(x) = 3 - 8x$, evaluate $g(x + 2) - g(x)$. ....(23) ________

24. Give the equation of the axis of symmetry of the parabola whose equation is $y = x^2 - 6x$. ....(24) ________

25. Write the following without negative exponents, where $a \neq 0$, and $b \neq 0$. ....(25) ________

$$(a^{-2} + b^{-2})^{-1}$$

26. Solve for x: $\log_x 27 = 3/2$ ....(26) ______

27. Simplify: $\log_{15} 10 + 2 \log_{15} 3 - 1/2 \log_{15} 36$ ....(27) ______

28. Write the equation of the directrix of the parabola whose equation is $x = -2y^2$. ....(28) ______

29. Determine the coordinates of the foci of the hyperbola with the following equation: ...(29) ______

$$\frac{y^2}{36} - \frac{x^2}{64} = 1$$

30. What is the radius of the circle with equation $6x^2 + 6y^2 = 108$? ....(30) ______

31. Name the graph represented by the equation $(x - 2)(y + 3) = 6$. ....(31) ______

32. Evaluate: $\log_2 \sin(\pi/4)$ ....(32) ______

33. Find the area of a triangle with sides 8 cm and 12 cm, and included angle 150°. ....(33) ______

34. Evaluate: $\cos^{-1}(\cos(-2\pi/3))$ ....(34) ______

35. What is the exact value of $\cos 7\pi/12$? ....(35) ______

36. If angle A is an acute angle and $\sin A = 3/5$, find the value of $\sin 2A$. ....(36) ______

37. Evaluate: $\dfrac{25^{\sin^2 x}}{25^{\cos^2 x}}$, when $x = 60°$ ....(37) ______

38. What is the domain of the function $y = \arcsin x$? ....(38) ______

39. Simplify: $\dfrac{\sin x}{\csc x} + \dfrac{\cos x}{\sec x}$ ....(39) ______

40. State the period of the function $y = 2 \cos 3x$. ....(40) ______

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

ADVANCED MATHEMATICS 3201

JUNE 1989

PART II

Value: 60 marks

Time: 2 hours

GENERAL INSTRUCTIONS

1. Part II consists of five essay items with some internal choice, and candidates are required to do **all** items.

2. Two sheets of graph paper are provided for use in some items. Also, a self-powered calculator may be used for calculations and to obtain special values.

3. Candidates are reminded to show all necessary steps and calculations as credit may be given for incomplete or partially correct solutions. Correct answers without calculations will not merit full marks.

4. Answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the Chief Supervisor prior to the first session, and have been posted for further reference near the entrance to the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

— Materials required
— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
-- Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

FORMULAE:

$$\sin(\alpha+\beta) = \sin\alpha\cos\beta + \cos\alpha\sin\beta$$
$$\sin(\alpha-\beta) = \sin\alpha\cos\beta - \cos\alpha\sin\beta$$
$$\cos(\alpha+\beta) = \cos\alpha\cos\beta - \sin\alpha\sin\beta$$
$$\cos(\alpha-\beta) = \cos\alpha\cos\beta + \sin\alpha\sin\beta$$
$$\tan(\alpha+\beta) = \frac{\tan\alpha + \tan\beta}{1-\tan\alpha\tan\beta}$$
$$\tan(\alpha-\beta) = \frac{\tan\alpha - \tan\beta}{1+\tan\alpha\tan\beta}$$

$$\sin 2\alpha = 2\sin\alpha\cos\alpha$$
$$\begin{aligned}\cos 2\alpha &= \cos^2\alpha - \sin^2\alpha\\ \text{(or)} &= 1 - 2\sin^2\alpha\\ \text{(or)} &= 2\cos^2\alpha - 1\end{aligned}$$
$$\tan 2\alpha = \frac{2\tan\alpha}{1-\tan^2\alpha}$$

$$\sin\frac{x}{2} = \pm\sqrt{\frac{1-\cos x}{2}}$$
$$\cos\frac{x}{2} = \pm\sqrt{\frac{1+\cos x}{2}}$$
$$\tan\frac{x}{2} = \frac{\sin x}{1+\cos x} = \frac{1-\cos x}{\sin x}$$

Value

1. Do any **THREE** of parts (a) to (d).

4 (a) Find **ALL** the zeros of the following polynomial equation:

$$x^3 - 4x^2 + 4x - 16 = 0$$

4 (b) Find the equation of the cubic polynomial P(x) if $P(-3) = P(-1) = P(2) = 0$, and $P(0) = 6$.

4 (c) Sketch the graph of $P(x) = x^4 - 9x^2$, and indicate if the real roots are double or triple.

4 (d) Use the Factor Theorem to determine if $(x - 2i)$ is a factor of the following polynomial:

$$x^4 + 3x^3 + 4x^2 + 12x$$

3 2. (a) Solve **ONE** of the following equations for x:

(i) $\mathrm{Log}_2(x-2) + \mathrm{Log}_2(x+1) = 2$

(ii) $\mathrm{Log}_3(x-2) - \mathrm{Log}_3(x+4) = -1$

3 (b) Solve for x: $\sqrt[3]{\dfrac{8^{x+1}}{16x}} = 32$

3 (c) The price of a cord of birch firewood delivered from central Newfoundland to St. John's five years ago was $120. This year a cord of birch costs $180. What is the annual rate of increase (to the nearest percent) in the cost of the firewood?

3. Do any **THREE** of parts (a) to (d).

4 (a) Sketch the graph of the hyperbola with the following equation, and show the asymptotes of the hyperbola:

$$\frac{(x-3)^2}{36} - \frac{(y-1)^2}{64} = 1$$

4 (b) Find the equation of the line that passes through the centre of each of the following circles.

(i) $x^2 + y^2 - 10x - 10y + 40 = 0$

(ii) $x^2 + y^2 - 12y + 25 = 0$

4 (c) Solve the following system algebraically:

$$2x^2 - 3y = 0$$

$$4x - y - 6 = 0$$

4 (d) Determine the centre, vertices, and foci of the following ellipse:

$$9x^2 + 25y^2 - 36x + 250y + 436 = 0$$

4 4. (a) **Either**

From two drilling platforms, P and Q, 25 km apart on the Grand Banks, a disabled fishing vessel S is sighted. If $\angle$ SPQ = 44° and $\angle$ SQP = 66°, find the distance from the vessel to the nearest platform.

Or

Two planes, one flying at 450 km/hr and the other at 300 km/hr, leave Deer Lake at the same time. Three hours later they both arrive at their destinations which are 1200 km apart. What was the measure of the angle between their flight paths?

4 (b) Sketch the graph of $y = 3 \sin 2x$ over the interval of $-\pi \leq x \leq \pi$.

4 (c) If $\cot x = 4/5$ and $\pi < x < 3\pi/2$, find the exact values of sin x and sec x.

3 5. (a) **Either**

Simplify: $\dfrac{\sec x + \tan x}{\dfrac{1}{1 - \sin x}}$

Or

Prove the identify: $2 \cos^2 x - \sin^2 x + 1 = 3 \cos^2 x$

3 (b) Solve for x: $2 \sin x \cos x = \tan x$, $\{ 0 \leq x < 2\pi \}$

4 (c) Given that $\cos a = 1/3$ for $3\pi/2 \leq a \leq 2\pi$, and $\sin b = 5/13$ for $0 \leq b < \pi/2$, find the exact value of $\cos (a - b)$.

5 (d) Do **ONE** only of parts (i) to (iii).

(i) Evaluate without using a calculator: $\sin \dfrac{7\pi}{12} \cos \dfrac{7\pi}{12}$

(ii) Two people are standing 200 metres apart on the bank of a river. If a rock on the opposite side is N25° E from one person and N15° W from the other person, how wide is the river?

(iii) Prove: $\cos 3x = 4 \cos^3 x - 3 \cos x$

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

BUSINESS MATHEMATICS 3202

JUNE 1989

Value: 100 marks

Time: 3 hours

Examination Number ______________________

GENERAL INSTRUCTIONS

1. The examination consists of both objective and essay items, arranged in three sections as follows, and candidates are required to do **ALL** sections as directed within:

   SECTION A — 15-multiple-choice items — 15%
   SECTION B — 25 completion items — 25%
   SECTION C — 5 essay items — 60%

2. Electronic calculators may be used if desired, but for essay items, candidates are reminded to show all necessary steps and calculations as credit may be given for incomplete or partially correct solutions. Correct answers without calculations will not merit full marks.

3. All answers are to be written in the spaces provided on this paper. Do not use allotted answer spaces for rough drafts which you may wish to discard.

4. Be sure to write your Examination Number in the space provided above.

REGULATIONS FOR CANDIDATES

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— Materials required
— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
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— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

FORMULAE

1. $$\text{Break-even Point in Units} = \frac{\text{Total Fixed Costs}}{\begin{matrix}\text{Selling Price}\\ \text{Per Unit}\end{matrix} - \begin{matrix}\text{Variable Cost}\\ \text{Per Unit}\end{matrix}}$$

2. $$\text{Possible Net Profit} = \left(\begin{matrix}\text{Selling Price}\\ \text{Per Unit}\end{matrix} - \begin{matrix}\text{Total Cost}\\ \text{Per Unit}\end{matrix}\right) \times \begin{matrix}\text{Estimated}\\ \text{Unit Sales}\end{matrix}$$

3. $$\text{Total Rental Cost} = (\text{Rental Charge} \times \text{Time}) + \text{Provincial Sales Tax.}$$

4. $$\begin{matrix}\text{Energy}\\ \text{Charge}\end{matrix} = \left(\begin{matrix}\text{Present}\\ \text{Meter Reading}\end{matrix} - \begin{matrix}\text{Previous}\\ \text{Meter Reading}\end{matrix}\right) \times \text{Multiplier} \times \text{Cost Per Kw-hr}$$

5. $$\text{Cost of Treasury Bill} = (\text{Face of Bill} - \text{Interest}) + \text{Service Fee}$$

6. $$\text{Annual Depreciation} = \frac{\text{Original Cost} - \text{Salvage Value}}{\text{Estimated Life}}$$

7. $$\text{Depreciation for Year} = \begin{matrix}\text{Fraction of}\\ \text{Total Depreciation}\end{matrix} \times \left(\begin{matrix}\text{Original}\\ \text{Cost}\end{matrix} - \begin{matrix}\text{Salvage}\\ \text{Value}\end{matrix}\right)$$

8. $$\text{Annual Depreciation Rate} = 2 \times \frac{100\%}{\text{Estimated Life}}$$

9. $$\text{Depreciation for Year} = \begin{matrix}\text{Annual}\\ \text{Depreciation Rate}\end{matrix} \times \begin{matrix}\text{Previous}\\ \text{Declining Balance}\end{matrix}$$

SECTION A

Business Terminology

In each of the following, select the term which is referred to or defined by the statement. Write the letter of the correct response for each in the blank at the right. Total value: 15%.

1. Expenses that usually include lodging, meals and transportation: ....(1) __________
   (A) business expenses
   (B) operating expenses
   (C) travel expenses
   (D) recruiting expenses

2. The price at which a business generally sells an item to a consumer: ....(2) __________
   (A) catalogue price
   (B) net price
   (C) trade price
   (D) prime price

3. A discount offered by a supplier to encourage prompt payment of a bill: ....(3) __________
   (A) chain discount
   (B) trade discount
   (C) cash discount
   (D) retail discount

4. The items a particular business has in stock: ....(4) __________
   (A) data base
   (B) receipts
   (C) invoices
   (D) inventory

5. The approximate value of an item after you have owned it for a period of time: ....(5) __________
   (A) salvage value
   (B) book value
   (C) net value
   (D) cash value

6. A record of the gross income, deductions, and net income of a company's employees: ....(6) __________
(A) quality control register
(B) payroll register
(C) owner's equity
(D) production record

7. The collection of files describing the activities of a business: ....(7) __________
(A) data analysis
(B) record
(C) data base
(D) data field

8. An accounting record which details the assets, liabilities, and equity of a business: ....(8) __________
(A) payroll register
(B) income statement
(C) financial summary
(D) balance sheet

9. The amount that a business actually receives from the sale of stocks or bonds after subtracting all selling expenses: ....(9) __________
(A) net proceeds
(B) maturity value
(C) commercial paper
(D) treasury bill

10. The number of times during one year that a business sells its average inventory: ....(10) __________
(A) inventory value
(B) inventory card
(C) inventory turnover
(D) inventory control

11. The difference between the selling price and the actual cost of an item: ....(11) __________
(A) net profit
(B) markup
(C) overhead
(D) rate change

12. An estimate of the unit sales expected to occur during a future period of time: ....(12) __________
(A) market share
(B) factor method
(C) sales potential
(D) sales projection

13. Charges for public services, such as electricity and telephones: ....(13) __________
(A) utilities cost
(B) labour costs
(C) materials charges
(D) energy charges

14. The wages paid to employees who manufacture an item: ....(14) __________
(A) prime cost
(B) direct labour cost
(C) fixed cost
(D) consultant's cost

15. The difference, expressed as a percent, between the regular selling price of an item and the sale price of an item: ....(15) __________
(A) markup rate
(B) trade discount rate
(C) prime rate
(D) markdown rate

SECTION B

Business Computations

Write the correct response for each of the following in the blank at the right. Total value: 25%.

16. Robert Kresge needs to order paper for his company. In the Alta-Bates Catalogue, a 15% trade discount is offered for a price of $275.92. What is the net price? ....(16) ____________________

17. In a survey for perfume, there were a total of 609 responses. 92 of the responses were "negative". To the nearest percent, what was the rate of "negative" responses? ...(17) ____________________

18. Airline Gormet supplies 24% of the meals for T.Y.M. flights. The estimated T.Y.M. market for meals for next year is $7 300 000. What is Airline Gormet's sales projection for next year in relation to this account? ....(18) ____________________

19. Corner Pizza Shop hired 2 carpenters to remodel its store. The carpenters each earn $18.75 an hour. If each carpenter worked $20\frac{1}{2}$ hours, what was the total labour charge to the Corner Pizza Shop? ....(19) ____________________

20. Horton's Department Store purchases shoes for $27.82 a pair. The markup on the shoes is 42% of the selling price. What is the selling price of one pair of shoes? ....(20) ____________________

21. Annual income statements for Crown Rentals showed net sales for 1987 to be $420 000 and for 1988 to be $452 000. To the nearest percent, what is the percent change? ....(21) ____________________

22. Johnson's Export Co. Ltd. had total business expenses of $210 000 for 1988. The payroll expense accounted for $124 500. Express payroll as a percent of the total. (Round to the nearest tenth of a percent.) ....(22) ____________________

23. Gilbert Electronics is shipping 2845 kg of tubing by air freight. The air freight rate is $15.20 per 100 kg charged on the actual number of kg shipped. What is the total shipping cost? ....(23) ____________________

24. Northside Complex estimates the annual cost of carrying its inventory to be 23% of its value. What will it cost Northside Complex to maintain a $750 000 inventory? ......(24) ____________________

25. Dell's, a shoe boutique, sells shoes for $138.98. Dell's purchases the shoes for $90.81. To the nearest tenth of a percent, what is the markup rate based on cost? ....(25) ____________________

26. What is the maturity value of a loan for $60 000 at 13.75% for ninety days? (Use ordinary interest at exact time.) ....(26) ____________________

27. Helen's Beauty Salon rents floor space at a local shopping mall. If the salon measures 6 m x 8 m and the annual rate per square metre is $84.00, what is the monthly rental charge? ....(27) ____________________

28. A company's net sales last year were $2 174 819. Its net sales this year are $3 400 000. What is the percent change? ....(28) ____________________

29. A hair dryer which has a catalogue price of $64.32 is sold for $47.28. What is the trade discount rate on this item? ....(29) ____________________

30. The Community Department Store purchased a new electronic cash register for $6 200. After two years, the accumulated depreciation was calculated to be $1 750. What is the book value of the cash register after the second year? ....(30) ____________________

31. Modern Stores reported net sales of $364 713 last year. If the cost of the goods sold was $224 918, what was the gross profit? ....(31) ____________________

32. A corporation showed a revenue of $350 000 with deductions totalling $180 000. Calculate the taxable income of the corporation. ....(32) ____________________

33. Country Clothes purchased shirts for a cost of $16.66 each. Country Clothes sells them for $39.99. Operating expenses are estimated to be 20% of the selling price. What is the net profit on one shirt? ....(33) ____________________

34. Angeline O'Neill received an 8.5% cost of living increase. If her present salary is $22 580, what will her new salary be? ....(34) ____________________

35. Golden Products sold 923 000 ovens over the year. During the same year, 3 million ovens were sold in the entire market. What was Golden Products' market share for the year? ....(35) ____________________

36. Jackson Storage Company paid total salaries of $10 892.33 for the week. If the total deductions were $2 743.22, what was the total net pay? ....(36) ______________________

37. Neville's Moving hired 3 students to clean its premises. Each student worked for 4.35 hours at an hourly rate of $4.25. If the materials charge was $22.54, what was the total charge for this service? ....(37) ______________________

Refer to the following "Status of Inventory Report" to do items 38, 39 and 40.

Status of Inventory Report for Week Ending April 30, 1988

Part #	Description	Stock	Cost	Retail	Restock	Order/On
1092	Paint	53	$18.75	$22.95	89/02/28	7
1097	Springs	21	$ 2.60	$ 4.29	89/04/16	22
1263	Toggles	41	$ 1.20	$ 2.19	89/03/31	15

38. Give the part number of the item that needs to be restocked. ....(38) ______________________

39. Omitting tax, how much would a customer pay for two toggles and one spring? ....(39) ______________________

40. What is the markup on one tin of paint? ....(40) ______________________

SECTION C

Value

Do **ALL** items in this section. Present your calculations and solutions in the spaces provided in this paper.
Total value: 60%

4 41. (a) Lake View Tech sent 3 employees to a 2-day workshop. The three employees' combined wages totalled $434.69 per day. The company paid a registration fee of $60.00 per person, and a total of $87.65 for lunches for the two days. What was the total cost for the company to send their employees to the workshop?

4 (b) Samantha and Tom Williams plan to market their ceramic teapots for $18.50 each. The variable cost per teapot includes $5.30 for supplies and $3.90 for labour. The fixed costs of the operation total $12 500. How many ceramic teapots do the Williams' have to sell to break even?

Value

4 (c) M & J Auto Glass purchases windshields at a cost of $86.50 each and sells them installed for $143.99. The overhead for each windshield is estimated to be 19% of the selling price. What is the net profit per windshield?

4 42. (a) Morgan's Auto Sales had $45 000 in surplus cash. The company decided to purchase a Canadian Treasury Bill at an interest rate of 12.1%. The Bill matures in 85 days. The bank charges a $45.00 service fee. What is the cost of the Treasury Bill?

5 (b) Trans-Nation Shipping is shipping 135 kg of auto parts by air freight. Costs include:

— Pickup at $4.50 per 100 kg or fractional part
— Delivery at $9.95 per 100 kg in increments of 50 kg
— Air freight at $2.50 per kg charged on the actual number of kg shipped
— Insurance charges at 5% of the air freight

What is the total cost of shipping?

Value

4 (c) Music-Plus Corporation wishes to project sales for 1990. Music-Plus sales history is as follows:

Year	1983	1984	1985	1986	1987	1988
Sales in Millions	$2.0	$3.4	$5.0	$3.0	$5.8	$6.8

Use the grid below to project sales for 1990.

6 43. (a) Do any **TWO** of parts (i), (ii), and (iii) on depreciation, using the method indicated. Calculations must be shown.

(i) **The Straight Line Method:** A new typewriter costs $2 100 and has an estimated life of 10 years. The trade-in value of the typewriter is expected to be $300. What is the book value after the 4th year?

Value

(ii) **The Sum-of-the-Years-Digits Method:** A new industrial sander costs $375 and has an estimated life of 5 years. The trade-in value of the sander is estimated to be $60. What is the book value at the end of the first year?

(iii) **The Double-Declining Balance Method:** New store fixtures cost Mifflin's Hardware $8 600 and are expected to have a trade-in value of $1 500 after 5 years of useful life. What is the book value at the end of the first year?

5 (b) The Ultra-Fast Grocery had the following assets and liabilities for the year ending 1988:

Cash	$235 000	Accounts Payable	$ 20 560
Inventory	$495 600	Accounts Receivable	$ 38 400
Real Estate Loan	$110 000	Income taxes	$ 9 740
Building	$250 000	Investments	$156 900
Equipment	$ 29 200	Wages owed	$ 31 350

Prepare the balance sheet below to show total assets, total liabilities, and owner's equity for 1988.

ASSETS		LIABILITIES	
		TOTAL LIABILITIES	
		OWNER'S EQUITY	
TOTAL ASSETS			

Value

4 44. (a) Barrow's Construction pays a monthly charge of \$62.65 for telephone services. The charge includes 120 local outgoing calls. Each additional outgoing local call costs \$.07. Last month a total of 272 outgoing local calls were made. A 12% provincial sales tax must be added to the bill. What was the total cost of the telephone service to Barrow's Construction?

(b) Use the Production Cost Report for the week ending June 15, 1989 to do parts (i) to (iv) of this item following the table.

Date	Project	Dept.	Part #*	Amount Used/ Hours Worked
89/06/15	12PT	9	6832	6
89/06/15	15RT	4	956	5
89/06/15	31XX	11	8660	8
89/06/15	31XX	15	342	3
89/06/15	12PT	11	5498	7
89/06/15	15RN	15	8660	13
89/06/15	31XX	4	3460	9

*In this column, a 4-digit number represents a part and a 3-digit number represents an employee.

1 (i) Which department used the most parts?

1 (ii) How many man-hours were spent on project 31XX?

2 (iii) If part number 8660 costs \$2.89 each, what was the materials charge for project 15RN for June 15?

Value

1 (iv) How many parts were used in total on June 15, 1989?

3 (c) Stern Shoes had the following expenses for the last quarter:

Payroll	$5,872.00
Office Supplies	$ 702.00
Advertising	$ 830.60
Utilities	$ 456.39

Payroll is what percent of the total? (Round your answer to the nearest tenth of a percent.)

4 45. (a) The net price of goods from Warner Tree Store to the Johnson Smythe Law Office was $275.80 for indoor plants. The invoice was paid in seven days. The terms on the invoice were 4/14, net 30. What was the cash price?

Value

4 (b) The management of River View is renting additional office furniture for the next 6 months. The retail charge is 9% of the list price of new furniture. There is a 12% provincial sales tax. They plan to rent items as follows:

Item	Unit List Price
3 leather armchairs	$ 260
1 oak conference table	$2,500
1 copy machine	$1,540

What is the total monthly rental charge?

4 (c) Complete the following inventory card for the Speedy Model in Wilson's Bike Shop:

ITEM: SPEED MODEL STOCK NUMBER: UUA 461

Month	Opening Balance	Receipts	Issues	Inventory At End Of Month
May	87	10	26	____________
June	________	18	64	____________
July	________			

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

ACADEMIC MATHEMATICS 3203

JUNE 1989

PART I

Value: 40 marks Time: 1 hour

Examination Number ______________________

GENERAL INSTRUCTIONS

1. Part I consists of objective items only arranged in two sections as follows, and candidates are required to do **ALL** items:

   SECTION A — 20 multiple-choice — 20%
   SECTION B — 20 completion — 20%

2. A self-powered calculator may be used for calculations and to obtain special values.
3. Answers are to be written in this paper.
4. Be sure to write your Examination Number in the space provided above.

REGULATIONS FOR CANDIDATES

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— Materials not permitted
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— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

SECTION A

Do ALL of the following by writing the letter of the correct response for each in the blank at the right. Total value: 20%.

1. Which of the following relations is a function? ....(1) ________

(A) (−4, 3), (−2, 0), (−2, −1)

(B) (−4, 3), (−2, 0), (2, −1)

(C) (−4, 3), (−4, 0), (−4, −1)

(D) (−4, 3), (3, −4), (3, 4)

2. Find the value for x in the equation $\log_7 (x + 1) = \log_7 9$ . ...(2) ________
(A) 9
(B) 7
(C) 8
(D) −8

3. If $F(x) = -3x^2 - 3$, what is the value of $F(-2)$? ....(3) ________
(A) 15
(B) −15
(C) 9
(D) −9

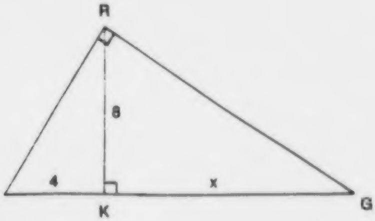
4. In the diagram below, $\angle$ SRG = 90° and RK $\perp$ SG. If SK = 4 and RK = 8, find the value of x. ....(4) ________

(A) 16

(B) $\frac{1}{16}$

(C) 2

(D) $\frac{1}{2}$



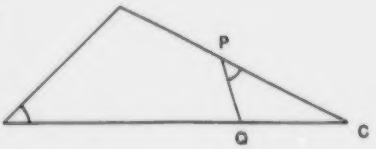
5. In the diagram below, $\angle$ QPC = $\angle$ ABC. Which one of the following statements is correct? ....(5) ________

(A) Δ ABC ~ Δ PQC

(B) Δ ABC ~ Δ QCP

(C) Δ ABC ~ Δ QPC

(D) Δ CBA ~ Δ PQC



6. Which one of the following parabolas has a vertex of (−2, 3)? ....(6) ________

(A) $y = -2x^2 + 3$

(B) $y = -2(x + 1)^2 + 3$

(C) $y = (x - 2)^2 + 3$

(D) $y = 3(x + 2)^2 + 3$

7. If the solutions of a quadratic equation are imaginary, which of the following represents the value of the discriminant? ....(7) __________
(A) $D = 0$
(B) $D < 0$
(C) $D > 0$
(D) $D \geq 0$

8. What are the zeros of the quadratic equation $y = x^2 - x - 6$? ....(8) __________

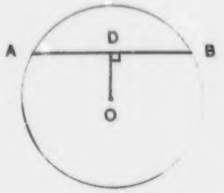
(A) $\{-3, 2\}$

(B) $\{3, -2\}$

(C) $\{3, 2\}$

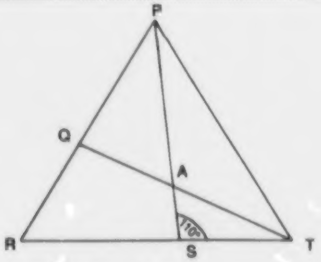
(D) $\{-3, -2\}$

9. In the diagram below, AB = 16, OD = 6 and O is the centre of the circle. What is the length of the diameter of the circle? ....(9) __________
(A) 10
(B) 20
(C) 22
(D) 24



10. An inscribed angle of a circle measures 50°. What is the measure of the central angle subtended on the same arc? ....(10) __________
(A) 25°
(B) 50°
(C) 75°
(D) 100°

11. In the diagram below, ∠ PST = 110°, and points Q, R, S and A are concyclic points. What is the measure of ∠ RQA? ....(11) __________
(A) 70°
(B) 80°
(C) 100°
(D) 110°



12. What is the equation of the parabola with focus (0, 8)? ....(12) __________

(A) $x = \frac{1}{32} y^2$

(B) $y = \frac{-1}{32} x^2$

(C) $y = \frac{1}{32} x^2$

(D) $x = \frac{-1}{32} y^2$

13. The equation of a circle is $x^2 + (y + 5)^2 = 2$. What are the coordinates of the centre? ....(13) __________
(A) $(0, -5)$
(B) $(0, 5)$
(C) $(-5, 2)$
(D) $(5, 2)$

14. What is the exact value of sin 60°? ....(14) ________

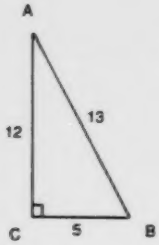
(A) $\sqrt{3}$

(B) $\frac{\sqrt{2}}{2}$

(C) $\frac{1}{2}$

(D) $\frac{\sqrt{3}}{2}$

15. In the diagram below, which trigonometric function of ∠ B is represented by $\frac{13}{5}$? ....(15) ________
(A) sin ∠ B
(B) cos ∠ B
(C) sec ∠ B
(D) csc ∠ B



16. Given cot θ = 1.6643, find the value of θ to the nearest degree. ....(16) ________
(A) 29°
(B) 31°
(C) 59°
(D) 62°

17. Express 51.19° in degrees, minutes and seconds. ....(17) ________
(A) 51° 24′ 11″
(B) 51° 11′ 24″
(C) 51° 12′ 30″
(D) 51° 10′ 40″

18. Which of the following is not defined if cos θ = 0? ....(18) ________
(A) cot θ
(B) csc θ
(C) tan θ
(D) sin θ

19. What is the measure of the principal angle for the angle −225°? ....(19) ________
(A) 45
(B) −45
(C) 135
(D) −135

20. What is the value of tan (−180°)? ....(20) ________
(A) 0
(B) 1
(C) −1
(D) undefined

SECTION B

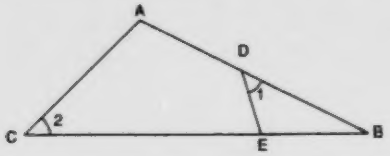
Do **ALL** of the following by writing the correct response for each in the blank at the right. Total value: 20%.

21. What is the slope of the line containing the points A(1,2) and B(2,−4)? ....(21) ________

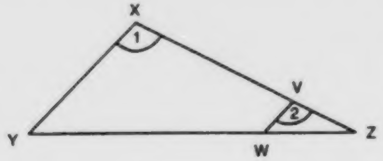
22. Solve for x: log 2 = x log 8 ....(22) ________

23. What is the range of the function { (2,0), (1,1), (3,1), (0,4), (4,4) }? ....(23) ________

24. In the diagram below, ∠ 1 = ∠ 2, CB = 28, DE = 8 and DB = 12. Find AC. ....(24) ____________________



25. In the diagram below, ∠ 1 = ∠ 2, XV = 10, VZ = 2 and WZ = 3. Find YW. ....(25) ____________________

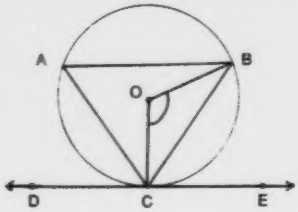


26. Give the coordinates of the vertex of the parabola $\frac{y+3}{4} = x^2$. ....(26) ____________________

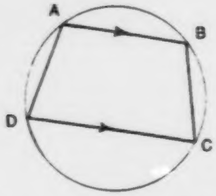
27. Find the value of the discriminant of the quadratic equation $5x^2 - 3x = 7$. ....(27) ____________________

28. What number must be added to $2x^2 - 10x$ to make a perfect square? ....(28) ____________________

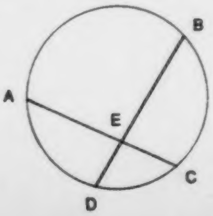
29. In the diagram below, O is the centre of the circle and ∠ BCE = 70°. Find ∠ COB.(29) ____________________



30. In the diagram below, AB ∥ DC and ∠ B = 100°. Find the measure of ∠ A. ....(30) ____________________



31. In the diagram below, AC and BD intersect at E. If AE = 6, CE = 4, and BE = 8, find DE. ....(31) ____________________



32. What is the midpoint of the line segment whose endpoints are A (–6, 4) and B(3, –8)? ....(32) ____________________

33. Write the equation of a circle with centre (0,0) and radius 2. ....(33) ____________________

34. What is the period of the sine function, in radian measure? ....(34) ____________________

35. If sin θ is negative and tan θ is negative, in which quadrant does the terminal arm of angle θ lie? ....(35) ____________________

36. Simplify completely: tan $\theta \cdot$ csc θ ....(36) ____________________

37. Change 210° to its equivalent radian measure. ....(37) ____________________

38. What is the smallest positive angle coterminal with 540°? ....(38) ____________________

39. What is the maximum value of sin θ ? ....(39) ____________________

40. What is the y-intercept of the function $y = \cos\theta$? ....(40) ____________________

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

ACADEMIC MATHEMATICS 3203

JUNE 1989

PART II

Value: 60 marks

Time: 2 hours

GENERAL INSTRUCTIONS

1. Part II consists of six essay items with some internal choice, and candidates are required to do **ALL** items.
2. Two sheets of graph paper are provided for use in some items. Also, a self-powered calculator may be used for calculations and to obtain special values.
3. Candidates are reminded to show all necessary steps and calculations as credit may be given for incomplete or partially correct solutions. Correct answers without calculations will not merit full marks.
4. Answers are to be written in the answer booklet provided.

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— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
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— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

Value

3 1. (a) **Solve ONE of the following — either (i) or (ii).**

(i) $\log_3 (x+3) - \log_3 x = 2$

(ii) $\log_4 (x+2) + \log_4 3 = 2$

3 (b) **The law of decay of a radioactive element is given by the following function, where t is the time in years and E(t) is the amount in milligrams:**

$$E(t) = 150 \times 2^{\frac{-t}{500}}$$

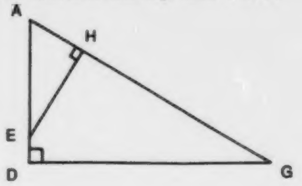
After 1000 years, what is the mass of the element?

3 (c) **Find the equation of the function, in slope intercept form, that contains the ordered pair A(2, −1) and B(4, 1).**

4 2. (a) **Write a two-column proof (statements and reasons) for ONE of the following – either (i) or (ii):**

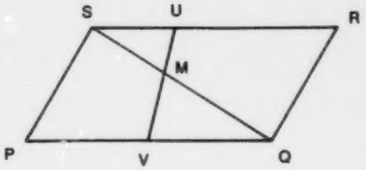
(i) **GIVEN:** $\overline{AD} \perp \overline{DG}$, and $\overline{EH} \perp \overline{AG}$

PROVE: AE • DG = AG • HE

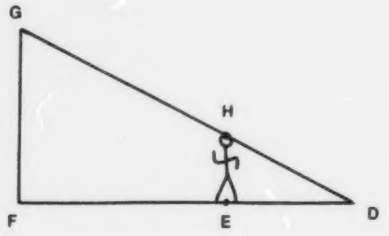


(ii) **GIVEN:** SR || PQ

PROVE: US • MQ = VQ • MS



2 (b) **To estimate the height of a pole, a basketball player, exactly 2 m tall, stood so that the ends of the shadows coincided. As diagrammed below, he found that DE and DF measured 1.6 m and 4.4 m respectively. How high is the pole (GF)?**



3 3. (a) **Solve the quadratic equation:** $3x^2 + 6x - 5 = 0$

3 (b) **Set up an appropriate equation and solve the following problem:**
Find the dimensions of a rectangular garden of maximum area that could be enclosed with 60 m of wire fencing.

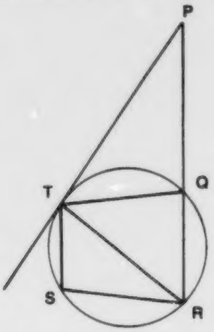
3 (c) **Set up an appropriate equation and solve the following problem:**
The length of a rectangle is 1 m longer than 3 times the width. If the area is 1220 m^2, calculate the dimensions.

Value

4 4. (a) Write a two-column proof (statements and reasons) for ONE of the following — either (i) or (ii):

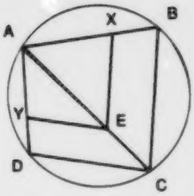
(i) **GIVEN:** PT is a tangent to the circle,
and TS || RP.

PROVE: Δ PQT ~ Δ RST

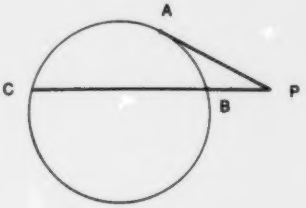


(ii) **GIVEN:** ABCD is a cyclic quadrilateral, and E is any point on AC. X is on AB such that XE || BC, and Y is on AD such that EY || CD.

PROVE: AXEY is a cyclic quadrilateral.



2 (b) In the diagram below, PA is tangent to the circle and PC intersects the circle at B. If PA = 5 and PB = 3, find BC.



3 (c) Two parallel chords of a circle are 12 cm and 16 cm in length. If the diameter of the circle is 20 cm, how far apart are the chords if they are on the same side of the centre?

2 5. (a) Change the equation $x^2 + y^2 - 10x + 6y + 2 = 0$ to the standard form of an equation of a circle.

4 (b) Using the graph paper provided and an appropriate table of values, draw the graph of the equation $24x + 3y^2 = 0$, showing clearly its focus and directrix.

Value

3 6. (a) From the top of a cliff, 60 m above sea level, overlooking the ocean, a small sailboat is spotted at an angle of depression of 37°. How far is the sailboat from the base of the cliff?

3 (b) If $\tan\ \theta = 0.2761$, find two values of θ to the nearest degree. $[\,0° \le \theta \le 360°\,]$

3 (c) If θ is an angle in the third quadrant and $\sin\ \theta = \frac{-2}{3}$, calculate the value of $\cos\ \theta$ and $\tan\ \theta$.

4 (d) Two jets were sighted from St. John's airport in the same vertical plane as the airport. The sighting distances from the planes to the airport are 20 km and 30 km with an angle of 120° between sightings. Find the distance between the two jets.

4 (e) Prove the following identity: $\csc\ \theta\ (\ 1 + \sin\ \theta\ ) = 1 + \csc\ \theta$.

4 (f) Using the graph paper provided and an appropriate table of values, draw the graph of the function $y = \cos\ \theta$. $[\,0 \le \theta \le 2\pi\,]$.

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

MUSIC THEORY 3100

JUNE 1989

Value: 100 marks **Time: 2 hours**

Examination Number ____________________

GENERAL INSTRUCTIONS

1. The examination consists of a variety of item types arranged in two sections, A and B, and candidates are required to do ALL items as directed in each.

2. Note that Section A will be administered by tape. Instructions for individual items are written on the paper and will be read on the tape as each item is presented. LISTEN CAREFULLY AS THE TAPE WILL NOT BE STOPPED FOR REPETITION. Section B is presented entirely in written form on this paper.

3. All answers are to be written on this paper. Do not use allotted answer spaces for rough drafts which you may wish to discard.

4. Be sure to write your Examination Number in the space above.

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— Completion of required information
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Value

SECTION A

Do **ALL** items in this section as directed on the tape. Total value: 40%.

4 1. **Scale Identification**

You will hear four scales, each played twice. You are to identify each scale as being either major, natural minor, harmonic minor, melodic minor, whole tone, pentatonic or chromatic, and write the correct name in the blank provided.

EXAMPLE: ______ **Major** ______

(a) ____________________ (c) ____________________

(b) ____________________ (d) ____________________

5 2. **Interval Identification**

You will hear five intervals, each played twice melodically. You are to write the name of each interval in the space provided. Only major, minor, perfect, augmented and diminished intervals will be used.

EXAMPLE: ______ **Perfect 5th** ______

(a) ____________________ (d) ____________________

(b) ____________________ (e) ____________________

(c) ____________________

5 3. **Chord Identification**

You will hear five chords, each played twice in block form and broken form. You are to identify the quality of each chord as either major, minor, diminished, augmented, or dominant 7th, and write the correct response in the blank provided.

EXAMPLE: ______ **Major** ______

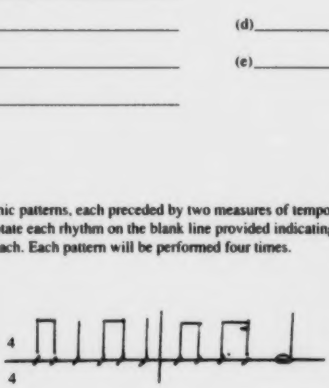
(a) ____________________ (d) ____________________

(b) ____________________ (e) ____________________

(c) ____________________

6 4. **Rhythmic Dictation**

You will hear two rhythmic patterns, each preceded by two measures of tempo beats to establish rhythmical feel and tempo. You are to notate each rhythm on the blank line provided indicating the correct time signature and adding the bar lines for each. Each pattern will be performed four times.



(a) ____

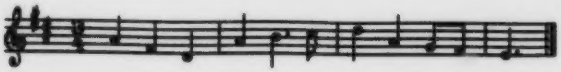
(b) ____

Value

8 5. **Melodic Dictation**

You will hear two melodic phrases, each preceded by a tonic chord played in solid and in broken form to establish the tonal centre. You are to notate each melody on the blank staff provided. Each staff contains the clef, the key signature, the time signature, and the beginning note for the pertinent melody. Each melody will be played four times. After you have finished writing each melody, name the key, indicating whether it is major or minor, and place your answer in the blank provided.

EXAMPLE



Key: D Major

(a)

Key: ____________________

(b)

Key: ____________________

3 6. **Cadence Identification**

You will hear three cadences, each played three times. The tonic chord will be played before each cadence to establish the key area. You are to identify each cadence as either perfect, plagal, interrupted, or imperfect, and write your response in the blank provided.

EXAMPLE: Perfect

(a) ____________________ (b) ____________________

(c) ____________________

6 7. **Chord Progression Notation**

You will hear three chord progressions, each one performed four times. You are to notate each chord progression in the space provided on your paper. The first and second chord progressions you will hear are performed in the major mode while the third progression is written in the minor mode. Each test item will be performed four times.

EXAMPLE

I V I IV I

(a) ____________________

(b) ____________________

(c) ____________________

Value

3 8. **Chord Progression Identification**

You will hear three chord progressions, each performed three times. You are to identify each chord progression you hear from the four provided on your paper, and indicate your choice by circling the letter identifying the appropriate progression.

EXAMPLE:

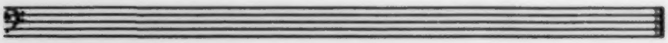
	[✓ A]	I	I	V	vi	V	I
	B	i	i	V	VI	V	i
	C	i	III	V	vi	v	I
	D	I	I	IV	V	IV	I
(a)	A	I	IV	V	ii	V	I
	B	I	V	vi	vii°	V	I
	C	I	IV	V	vi	IV	I
	D	i	iv	V	VI	iv	i
(b)	A	i	III	iv	VII	IV	i
	B	i	III	iv	ii°	V	i
	C	I	iii	IV	vii°	V	I
	D	I	ii	V	ii	IV	I
(c)	A	I	ii	V	vi	I	
	B	I	ii	IV	V	I	
	C	I	ii	IV	vii°	I	
	D	I	ii	V	vii°	I	

SECTION B

Do **ALL** items in this section as directed in each. Total value: 60%.

4 9. Complete the following scales, ascending and descending, incorporating the key signature, if appropriate. Note the clef and the note value to use for each scale.

(a) F sharp Harmonic minor. 𝅝



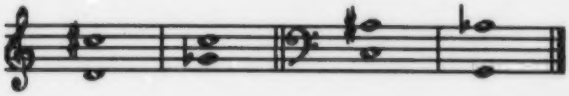
(b) Whole tone on E flat. 𝅗𝅥

Value

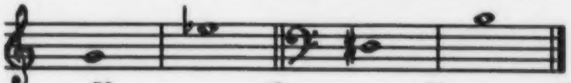
(c) A flat major. 𝅗𝅥

(d) Chromatic on D. 𝅝

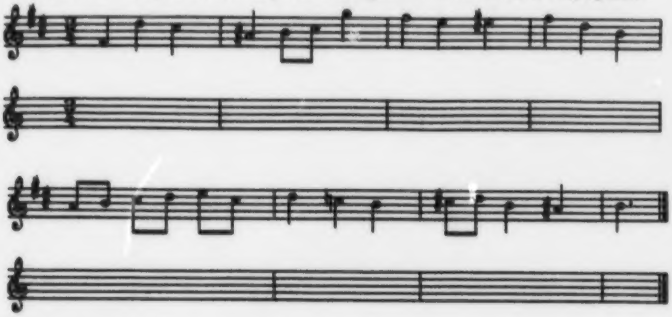
4 10. (a) Identify the following intervals and write the names in the blanks provided.



4 (b) Complete the following intervals by adding the indicated tone **below** the note already given.

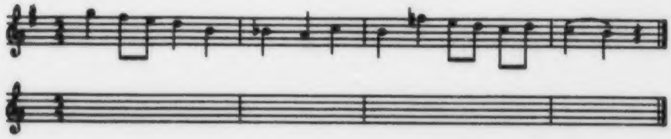


2 11. (a) Transpose the following melody by writing it down an **augmented 4th.** Include the new key signature.



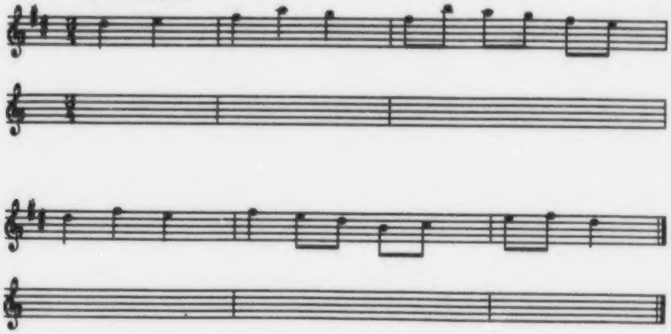
(b) Rewrite the following Instrumental parts in **Concert** pitch. Use the correct key signatures.

2 (i) B^b Clarinet

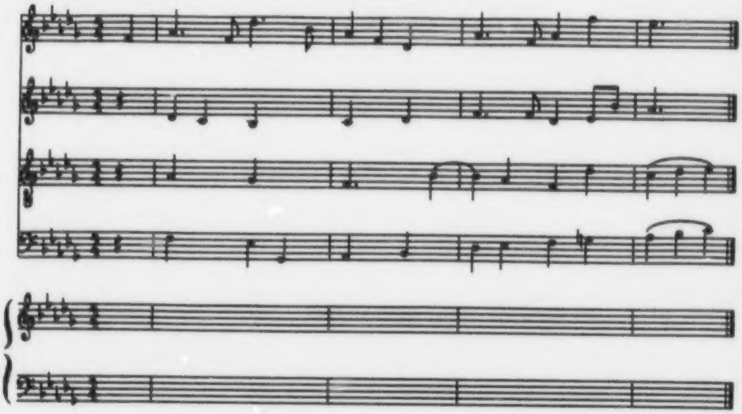


Value

2 (ii) E♭ Alto Horn



4 12. On the blank provided below, transpose the following excerpt into **closed chorale score.**



4 13. (a) Define any **FOUR** of the following terms:

(i) Vivace____

(ii) Morendo____

(iii) Scherzando____

(iv) Allargando____

(v) Tutti____

4 (b) Identify any **FOUR** of the folllowing signs:

(a) D.S. ____

(b) ____

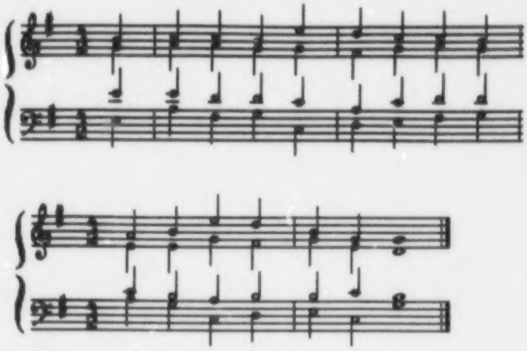
(c) ____

(d) ____

(e) Ⓕ ____

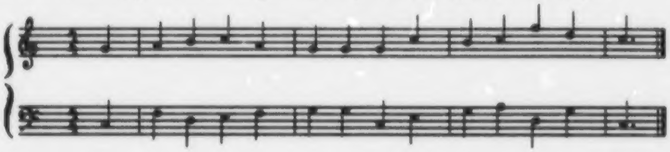
Value

4 14. Give a complete harmonic analysis of the following four-part chorale. (Be sure to state the key.)

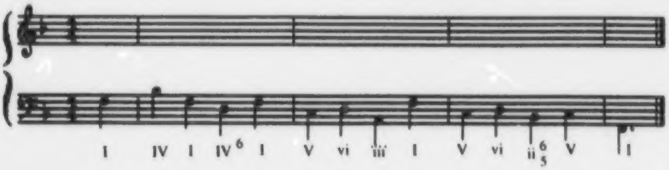


Key: ________________

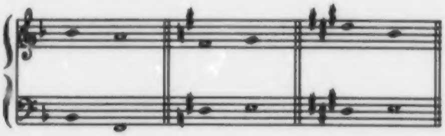
4 15. (a) Add **alto** and **tenor** parts to the following musical examples. Give a complete harmonic analysis.



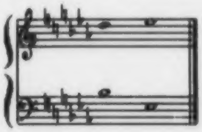
4 (b) Observing the bass line and the given harmonic analysis, add **Soprano, alto** and **tenor** parts to complete the chorale.



4 16. Complete the following cadences for **four** voices and write the name of each cadence in the blank provided below. The given parts are soprano and bass.



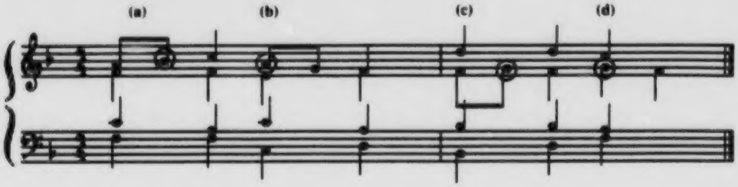
(a) ________________________ (b) ________________________ (c) ________________________



(d) ________________________

Value

4 17. In the blanks below, label the non-harmonic tones circled and lettered (a) to (d) in the example.



(a) ______________ (b) ______________ (c) ______________ (d) ______________

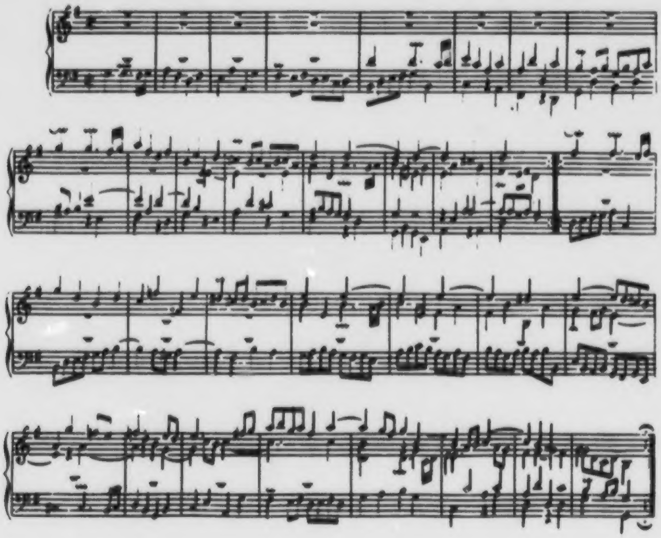
3 18. (a) In the space provided below, discuss the structural characteristics common to the Sonata-allegro form. You may use a diagram to help illustrate your answer.

Value

3 (b) In the space below, describe the various developmental devices commonly used in the Sonata-allegro form.

Value

4 19. Analyze the formal structure of the following musical selection, and in the space following the selection, name the form, and discuss the formal aspects as well as the compositional devices utilized in the composition.



DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

MUSIC HISTORY 3101

JUNE 1989

Value: 100 marks   Time: 2 hours

Examination Number ______________________

GENERAL INSTRUCTIONS

1. The examination consists of three sections as follows:

    SECTION A — Short answer (taped) — 16%
    SECTION B — Short answer (written) — 42%
    SECTION C — Essay Items — 42%

2. Note that Section A will be administered by tape. Instructions for individual items are written on the paper and will be read on the tape as each item is presented. LISTEN CAREFULLY AS THE TAPE WILL NOT BE STOPPED FOR REPETITION. All other sections are presented in written form only on this paper.

3. All answers are to be written in this paper.

4. Be sure to write your Examination Number in the space provided above.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the Chief Supervisor prior to the first session, and have been posted for further reference near the entrance to the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

- Materials required
- Materials not permitted
- Use of handheld calculator
- Use of pen or pencil
- Communication and movement during the examination
- Punctuality
- Leaving the room
- Use of answer booklets
- Completion of required information
- Use of unauthorized means, and penalties

Value

SECTION A

In this section, candidates are required to listen to short excerpts from eight musical selections, and to identify each composition and its composer. Identification of the specific movement or section within a particular composition is not required, and either the English or any original foreign language title may be used. Each excerpt will be played only once, and will be followed by sufficient pause for candidates to respond. Total value: 16%

16 1.

	Title of Composition	Composer
(a)		
(b)		
(c)		
(d)		
(e)		
(f)		
(g)		
(h)		

SECTION B

Do **ALL** items in this section. Total value: 42%.

10 2. From the given list of composers, identify the composer of each of the compositions (a) to (j), and write the composer's name in the corresponding blank at the right.

Composers

Ives
Willan
Schumann
Berlioz
Brahms

Liszt
Wagner
Berg
Verdi
Bartok

Tchaikovsky
Schubert
Debussy
Stravinsky
Crumb

(a) "Three Places in New England" ....(a) ____________________

(b) "Eugene Onegin"..(b) ____________________

(c) "Les Troyens"..(c) ____________________

(d) "Die Wintereise"..(d) ____________________

(e) "Pelléas et Melisande"..(e) ____________________

(f) "Firebird" ....(f) ____________________

(g) "Music for Strings, Percussion and Celeste"..(g) ____________________

(h) "Four Serious Songs" ....(h) ____________________

(i) "Ancient Voices of Children"..(i) ____________________

(j) "An Apostrophe to the Heavenly Hosts"..(j) ____________________

10 3. Identify each of the following by writing the term defined or the name of a person described in the blank provided.

(a) The "Poet of the Piano": ....(a) ____________________

(b) Music, painting and literature that evoke the picturesque atmosphere and colour of far-off lands:..(b) ____________________

(c) The avoidance of any kind of tonal centre:..(c) ____________________

Value

(d) Music for which the composer has not indicated any non-musical associations, whether a story, scene, or mood: ....(d) ____________________

(e) The twentieth century technique of using two or more keys simultaneously: ....(e) ____________________

(f) The strongly rhythmic impetuous third movement in the symphonies of the Romantic period: ....(f) ____________________

(g) A study piece dealing with a specific technical problem such as the execution of rapid scales and arpeggios: ....(g) ____________________

(h) A musical declamation imitating the natural inflection of speech: .(h) ____________________

(i) A type of program music written for plays, generally consisting of an overture and a series of pieces to be performed between acts and during important scenes: ....(i) ____________________

(j) The German answer to French Impressionism: ....(j) ____________________

6 4. Write the letter of the correct response for each of the following in the blank at the right.

(a) What Canadian composer is best remembered for his church music? ....(a) __________
(A) Healey Willan
(B) Aaron Copland
(C) Murray Schafer
(D) Murray Adaskin

(b) What term refers to music that deliberately allows a degree of chance during performance? ....(b) __________
(A) cyclical
(B) through-composed
(C) aleatoric
(D) surreal

(c) What is a large-scale work for solo instrument and orchestra, in several movements? ....(c) __________
(A) symphony
(B) opera
(C) cadenza
(D) concerto

(d) Which of the following is a song structure in which the same melody is repeated with every stanza? ....(d) __________
(A) strophic form
(B) ternary form
(C) binary form
(D) through-composed

(e) Into what stylistic periods can Stravinsky's compositions be grouped? ....(e) __________
(A) Serial, Aleatoric, Neoclassic
(B) Impressionist, Russian Nationalist, and Serial
(C) Nationalist, Serial, and Electronic
(D) Post-Romantic, Neoclassic, and Serial

(f) What is meant by the term, 'Singspiel'? ....(f) __________
(A) the text of an opera
(B) a kind of music drama
(C) an operetta or musical comedy
(D) a grand opera

Value

5. Do any **FOUR** of parts (a) to (f).

4 (a) Music in the nineteenth century drew steadily closer to a "union of the arts". Elaborate on this statement as it applies to the art song of the Romantic Era. Briefly discuss how one specific art song is a good example of the "union of the arts".

4 (b) Describe the function of the idée fixe in Berlioz's "Symphony Fantastique". How is the idée fixe presented in the Fifth Movement?

4 (c) How did twentieth century composers emancipate dissonance?

Value

4 (d) Name **FOUR** impressionistic characteristics which are evident in Debussy's "Prelude to the Afternoon of a Faun".

4 (e) Briefly explain how **BOTH** the Industrial Revolution and the gradual democratization of Romantic society contributed to the musical achievements of the Romantic Era.

4 (f) Following World War II, perhaps the single most important musical development was the emergence of electronic music. Name the **THREE** stages of development in this area, and elaborate on one of these stages.

Value

SECTION C

Do items #6 and #7 and any two others in this section — **FOUR** items in all. Total value: 42%

9 6. (a) Describe twentieth century musical style in terms of rhythm, melody, harmony, texture, orchestration and form.

2 (b) Briefly explain Schoenberg's most significant accomplishment in terms of twentieth century tonality.

11 7. Write a biographical sketch of one Canadian composer. Include in your answer dates of birth and death, important aspects of musical career, compositional style and examples of two compositions.

Value

NOTE: You are required to do TWO of the remaining items in this section.

10 8. Nationalism was a by-product of nineteenth century European Romanticism. Write a short essay describing the number of ways in which Romantic composers expressed their nationalism. Name specific compositions and composers.

10 9. Illustrate how the music is used to successfully portray the program of **ONE** of the following works: "The Moldau" **OR** "Les Préludes". Include in your answer the composer of the work and the specific type of composition.

10 10. Write a detailed essay describing Wagner's innovative style of opera writing. Include specific musical examples in your answer.

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

CHORAL PERFORMANCE 3103

JUNE 1989

Value: 100 marks

Time: 2 hours

Examination Number ___________________

GENERAL INSTRUCTIONS

1. The examination consists of objective and essay items, arranged in two sections, as follows, and candidates are required to do **BOTH** sections as directed in each:

   SECTION A — Objective and short answer items — 50%
   SECTION B — Essay items — 50%

2. Note that Section A will be administered by tape. Instructions for individual items are written on the paper and will be read on the tape as each item is presented. LISTEN VERY CAREFULLY AS THE TAPE WILL NOT BE STOPPED FOR REPETITION. Section B is presented in written form only on this paper.

3. All answers are to be written on this paper. Do not use allotted answer spaces for rough drafts which you may wish to discard.

4. Be sure to write your Examination Number in the space provided above.

REGULATIONS FOR CANDIDATES

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— Materials required
— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

Value

SECTION A

Do **ALL** items in this section as directed on the tape. Total value: 50%.

8 1. **METER IDENTIFICATION**

You will hear four musical selections, numbered (a) to (d), each played once. For each selection, three possible meters are indicated on your paper. Listen carefully to each selection, and circle the correct meter for each on your answer paper.

EXAMPLE

[✓ $\frac{2}{4}$] $\frac{3}{4}$ $\frac{6}{8}$

(a) $\frac{2}{4}$ $\frac{3}{4}$ $\frac{6}{8}$

(b) $\frac{3}{4}$ $\frac{4}{4}$ $\frac{6}{8}$

(c) $\frac{3}{4}$ $\frac{4}{4}$ $\frac{6}{8}$

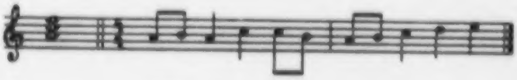
(d) $\frac{2}{4}$ $\frac{3}{4}$ $\frac{6}{8}$

12 2. **MELODY IDENTIFICATION**

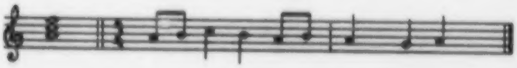
You will hear six melodies, numbered (a) to (f), each played twice. For each melody, three possible notations, A, B, and C, are given on your paper. You will be given time to examine the three possible notations of the six melodies. Listen carefully to each melody, and write the letter of the correct notation for each in the blank provided. Note that a tonic chord will be sounded at the beginning of each melody to establish the key.

EXAMPLE..(EX) C

(A)



(B)



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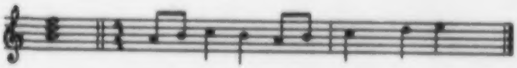
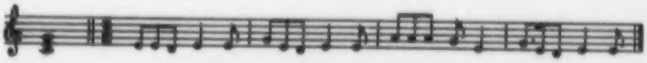


Melody (a)..(a) ________

(A)



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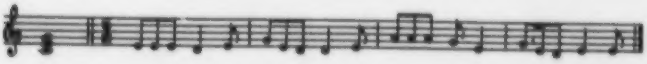
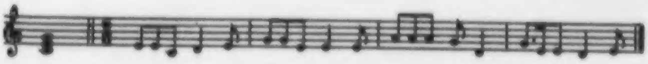


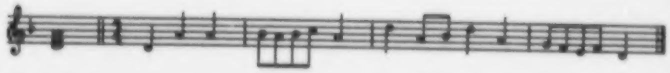
(C)



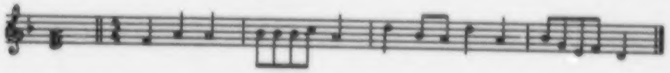
Value

Melody (b) ....(b) ________

(A)



(B)



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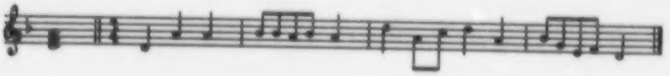
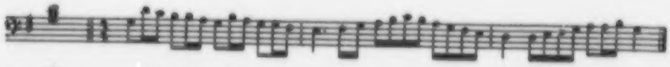


Melody (c) ....(c) ________

(A)



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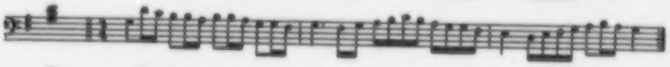

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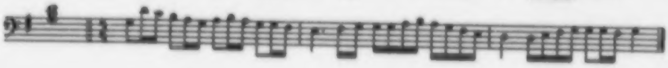
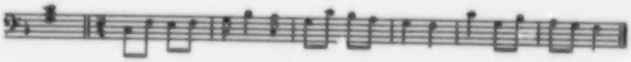


Melody (d) ....(d) ________

(A)



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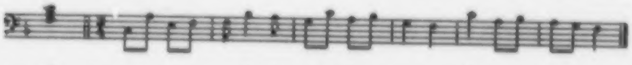

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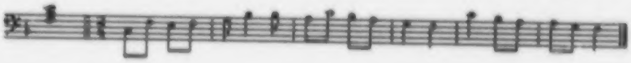
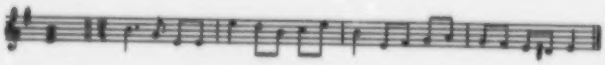


Melody (e) ....(e) ________

(A)



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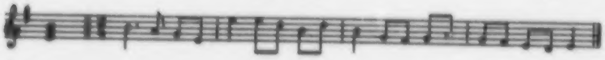
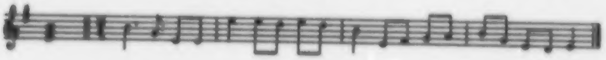


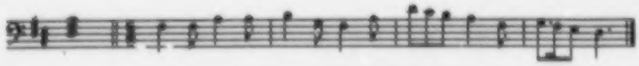
(C)



Value

Melody (f) ....(f) __________

(A)



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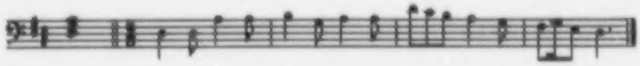

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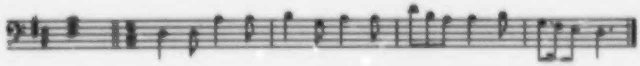
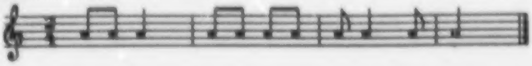


10 3. **RHYTHM IDENTIFICATION**

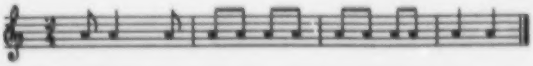
You will hear five rhythms, numbered (a) to (e), each performed twice. For each rhythm, three possible notations, A, B, and C, are given on your paper. You will be given time to examine the three possible notations for each of the five rhythm patterns. Listen carefully to each rhythm, and write the letter of the correct notation for each in the blank provided. To establish the beat, each rhythm will be preceded by one measure in which the beat will be clapped.

EXAMPLE ....(EX) __A__

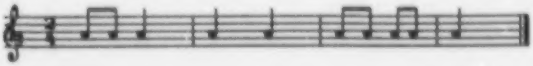
(A)



(B)

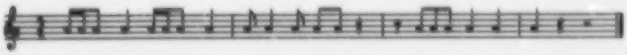


(C)

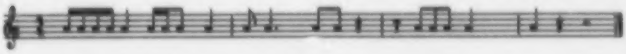


Rhythm (a) ....(a) __________

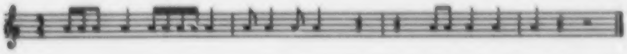
(A)



(B)

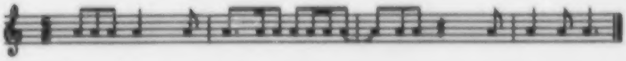


(C)

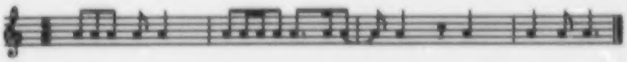


Rhythm (b) ....(b) __________

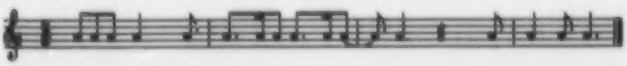
(A)



(B)



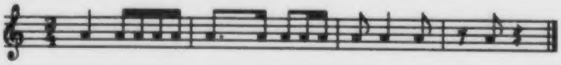
(C)



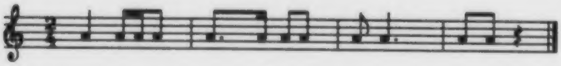
Value

Rhythm (c) ....(c) ________

(A)



(B)



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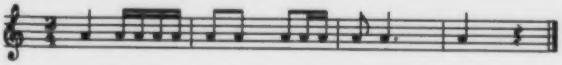
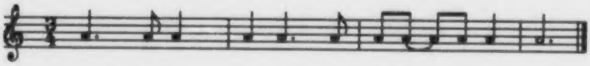


Rhythm (d) ....(d) ________

(A)



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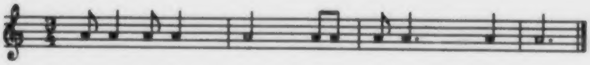
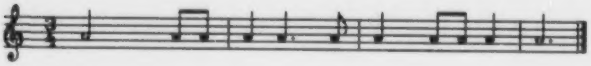
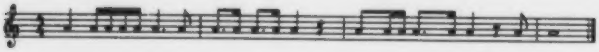


(C)



Rhythm (e) ....(e) ________

(A)



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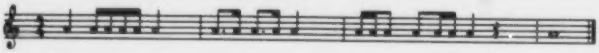
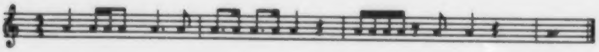


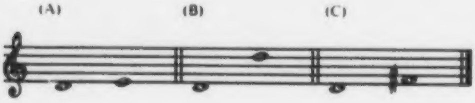
(C)



10 4. **INTERVAL IDENTIFICATION**

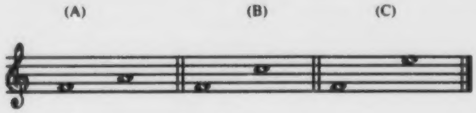
You will hear five intervals, numbered (a) to (e), each played twice. For each interval, three possible notations, A, B, and C, are given on your paper. You will be given time to examine the three possible notations for each of the five intervals. Listen carefully to each interval, and write the letter of the correct notation for each in the blank provided.

EXAMPLE...(EX) __A__

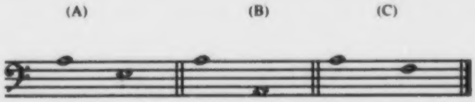


Value

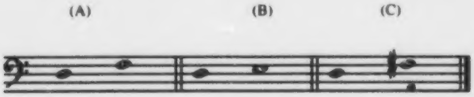
Interval (a)..(a) ________



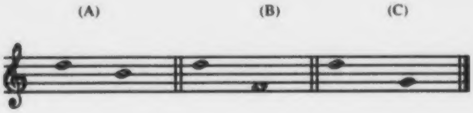
Interval (b)..(b) ________



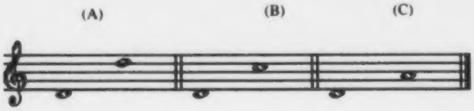
Interval (c)..(c) ________



Interval (d)..(d) ________



Interval (e)..(e) ________



10 5. **INTERVAL IDENTIFICATION**

You will hear five intervals, numbered (a) to (e), each played three times. Listen carefully to each interval, and write the name of the interval in the space provided. Do not use abbreviations for major, minor, or perfect.

EXAMPLE..(EX) ______Major 6th______

Interval (a)..(a) ____________________

Interval (b)..(b) ____________________

Interval (c)..(c) ____________________

Interval (d)..(d) ____________________

Interval (e)..(e) ____________________

Value

SECTION B

Do **ALL** items in this section. Total value: 50%.

6 6. Describe any **three** of the following aspects of choral singing, and state why each is important to the development of good choral sound.

(a) vowels ______________________________

____

____

____

____

(b) posture ______________________________

____

____

____

____

(c) blend ______________________________

____

____

____

____

(d) intonation ______________________________

____

____

____

____

7. One of the compositions you were required to study is "Ave Verum Corpus". Do **all** parts of this item based on this composition.

1/2 (a) Name the composer. ______________________________

1/2 (b) Name the historical period in which "Ave Verum Corpus" was composed. ______________

6 (c) Name and describe **three** characteristics of the historical era that can be identified in this composition.

____

____

____

____

____

____

Value

3 (d) Indicate the overall dynamic level of the composition, and briefly discuss how the vocal line should be performed.

8. Choose one required piece other than "Ave Verum Corpus" that you have studied this year, and do **both** parts of this item based on it.

2 (a) Name the piece, its composer, and the historical period in which it was composed.

6 (b) Briefly discuss **three** characteristics of the historical period that can be identified in this composition.

10 9. Explain any **ten** of the following terms or symbols:

(a) cantabile

(b) dolce

(c) legato

(d) crescendo

(e) Da Capo, D.C.

(f) descant

(g) sfz-sforzando

Value

(h) baritone

(i) a tempo

(j) accel.

(k) cut time

(l) falsetto

4 10. Discuss **four** aspects of choral conducting that are important for a good performance.

11. Do **all** parts of this item based on the score for "Alleluia" by William Boyce, a copy of which is presented following the item.

1 (a) In which musical era was this composition written:

1 (b) This composition is to be performed "a capella". What does this mean?

1 (c) What key is indicated by the key signature and the opening chord?

1 (d) What is the texture at the beginning of the composition?

1 (e) What is texture at letter A through G?

Value

3 (f) Study the section from letter A to letter G. Describe what is happening between the vocal lines.

2 (g) Discuss two aspects of this composition which could cause performance difficulties.

1 (h) How does a singer interpret the symbol 𝄐 ?

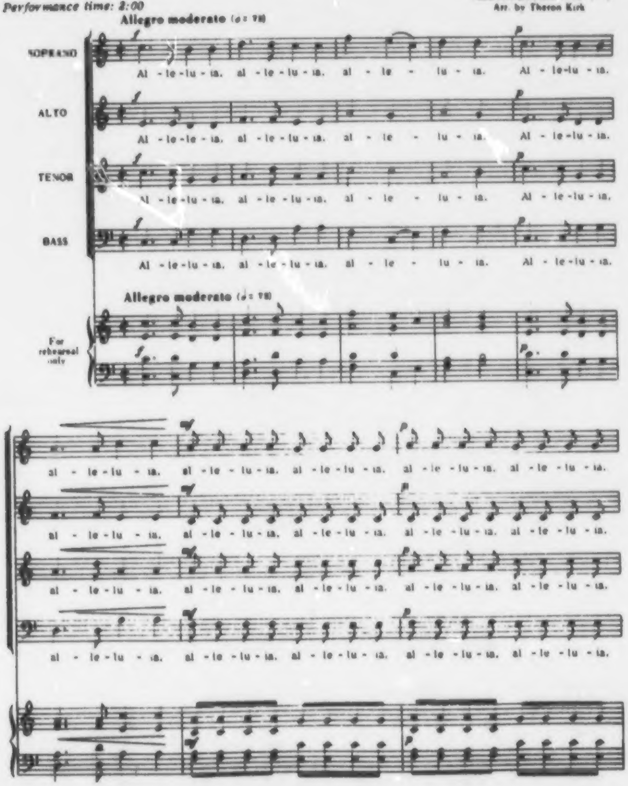
1 (i) What are the meter and tempo of the composition?

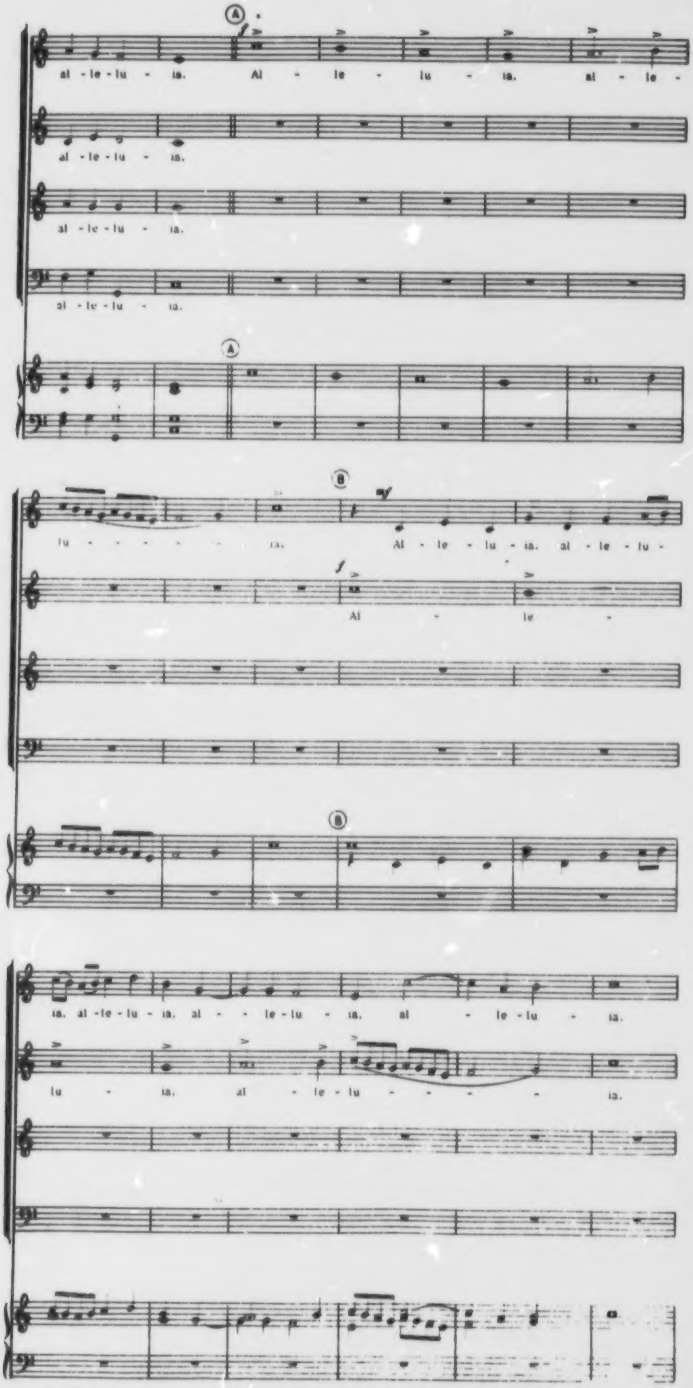
Alleluia

Mixed Voices S.A.T.B.

Based on a round by
WILLIAM BOYCE, 1710–1779
Arr. by Theron Kirk

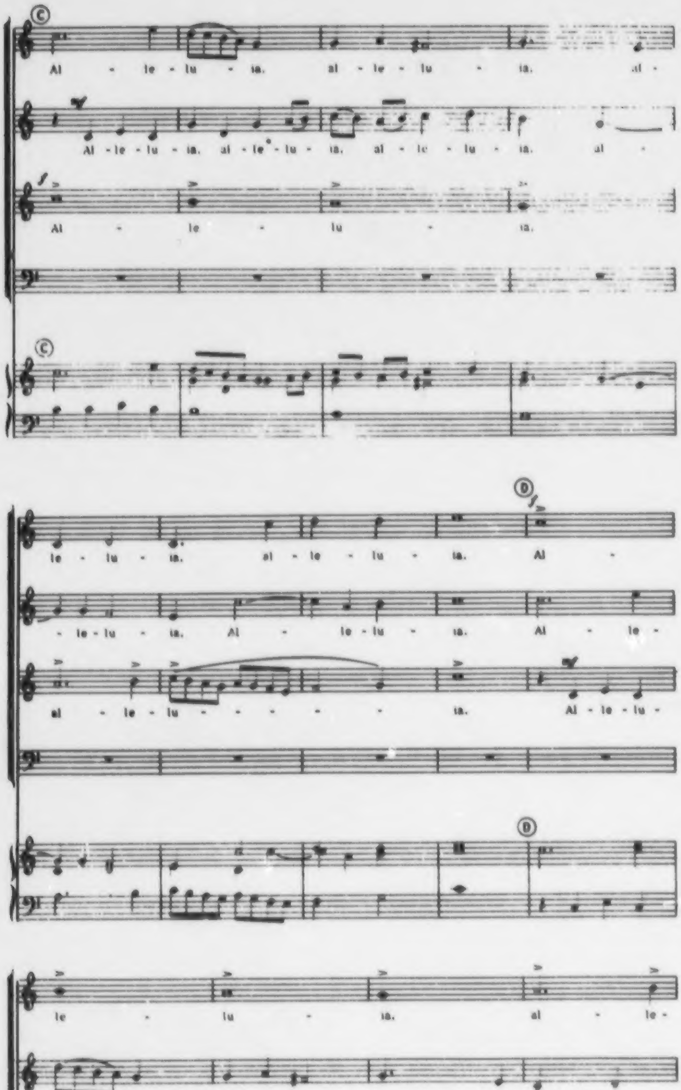
Performance time: 2:00

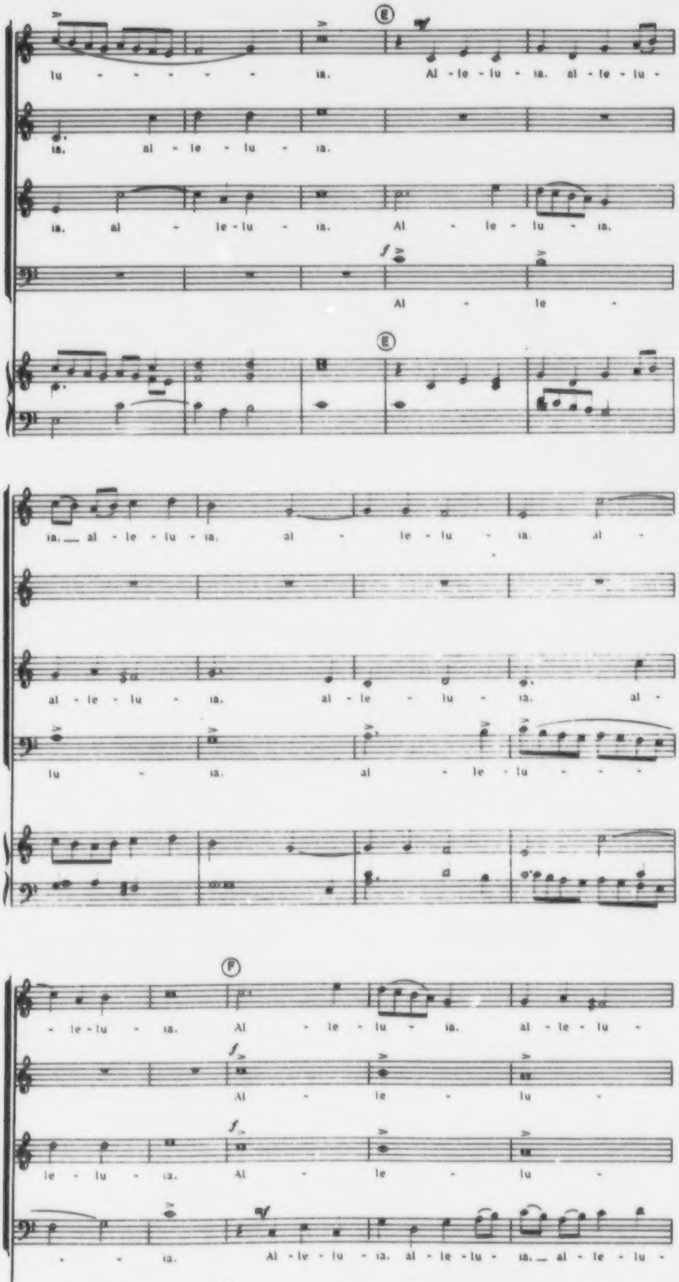

Allegro moderato (♩ = 78)
SOPRANO
ALTO
TENOR
BASS
f
p
mf
Al - le - lu - ia, al - le - lu - ia, al - le - lu - ia. Al - le - lu - ia,
al - le - lu - ia, al - le - lu - ia, al - le - lu - ia, al - le - lu - ia, al - le - lu - ia.
Allegro moderato (♩ = 78)
For rehearsal only

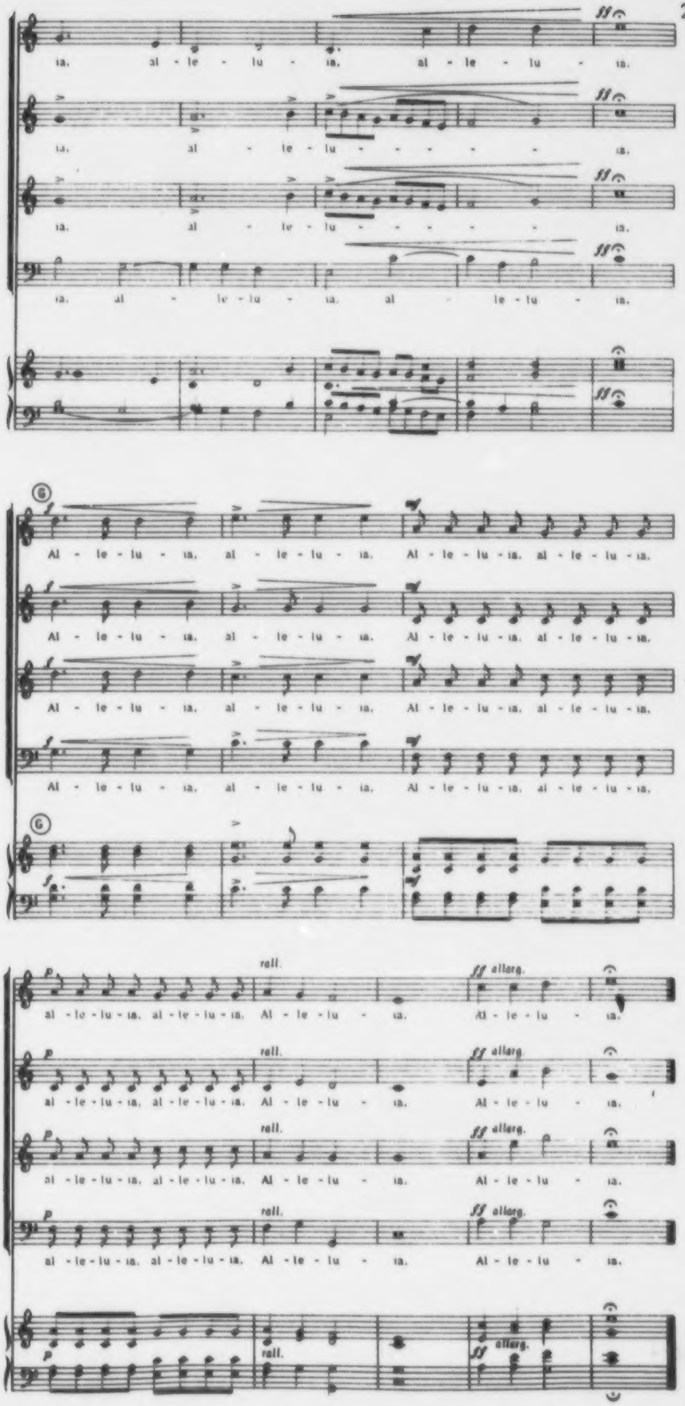

A
f
mf
B
al - le - lu - ia. Al - le - lu - ia. al - le -
al - le - lu - ia.
al - le - lu - ia.
al - le - lu - ia.
lu - ia. Al - le - lu - ia. al - le - lu -
Al - le -
ia. al - le - lu - ia. al - le - lu - ia. al - le - lu - ia.
lu - ia. al - le - lu - ia.

---

* Sustain volume on each note


C
Al - le - lu - ia. al - le - lu - ia. al -
Al - le - lu - ia. al - le - lu - ia. al - le - lu - ia. al -
Al - le - lu - ia.
C
le - lu - ia. al - le - lu - ia. Al -
- le - lu - ia. Al - le - lu - ia. Al - le -
al - le - lu - - - - - ia. Al - le - lu -
D
D
le - lu - ia. al - le -
lu - ia. al - le - lu - ia. al - le - le -
ia. al - le - lu - ia. al - le - lu - ia. al - le - lu -


E
lu - - - - - - ia. Al - le - lu - ia. al - le - lu -
ia. al - le - lu - ia.
ia. al - le - lu - ia. Al - le - lu - ia.
f
Al - le -
E
ia. al - le - lu - ia. al - le - lu - ia. al -
al - le - lu - ia. al - le - lu - ia. al -
lu - ia. al - le - lu - -
F
- le - lu - ia. Al - le - lu - ia. al - le - lu -
f
Al - le - lu -
f
le - lu - ia. Al - le - lu -
- - ia. Al - le - lu - ia. al - le - lu - ia. al - le - lu -
F


ff
ia. al - le - lu - ia. al - le - lu - ia.
ia. al - le - lu - - - - - - - ia.
ia. al - le - lu - - - - - - - ia.
ia. al - le - lu - ia. al - le - lu - ia.
⑥
f
Al - le - lu - ia, al - le - lu - ia. Al - le - lu - ia, al - le - lu - ia.
p
rall.
ff allarg.
al - le - lu - ia, al - le - lu - ia. Al - le - lu - ia. Al - le - lu - ia.

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

INSTRUMENTAL PERFORMANCE 3104

JUNE 1989

PART I

Value: 100 marks

Time: 2 hours

Examination Number ______________________

GENERAL INSTRUCTIONS

1. The examination consists of objective and essay items, arranged in two sections, as follows, and candidates are required to do **BOTH** sections as directed in each:

   SECTION A — Short answer items — 50%
   SECTION B — Short answer and essay items — 32%
   SECTION C — Essay items — 18%

2. Note that Section A will be administered by tape. Instructions for individual items are written on the paper and will be read on the tape as each item is presented. LISTEN VERY CAREFULLY AS THE TAPE WILL NOT BE STOPPED FOR REPETITION. Section B and C are presented in written form only on this paper.

3. All answers are to be written on this paper. Do not use allotted answer spaces for rough drafts which you may wish to discard.

4. Be sure to write your Examination Number in the space provided above.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the Chief Supervisor prior to the first session, and have been posted for further reference near the entrance to the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

— Materials required
— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

Value

SECTION A

Do **ALL** items in this section as directed on the tape. Total value: 50%

8 1. **METER IDENTIFICATION**

You will hear four musical selections, numbered (a) to (d), each played once. For each selection, three possible meters are indicated on your paper. Listen carefully to each selection, and circle the correct meter for the selection on your answer paper.

EXAMPLE

[✓ 2/4] 3/4 6/8

(a) 3/4 4/4 6/8

(b) 3/4 4/4 6/8

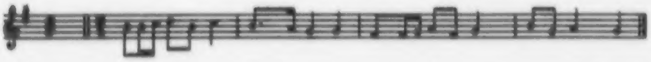
(c) 3/4 4/4 6/8

(d) 2/4 3/4 6/8

12 2. **MELODY IDENTIFICATION**

You will hear six melodies, numbered (a) to (f), each played twice. For each melody, three possible notations, A, B, and C, are given on your paper. You will be given time to examine the three possible notations before each of the six melodies. Listen carefully to each melody, and write the letter of the correct notation for each in the blank provided. Note that a tonic chord will be sounded at the beginning of each melody to establish the key.

EXAMPLE..........(EX) B

(A)


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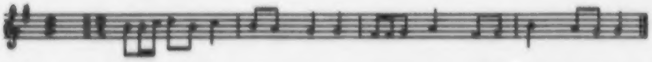

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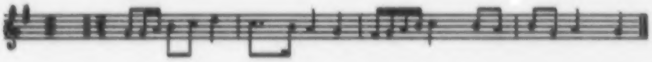
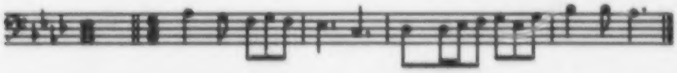
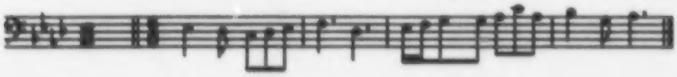
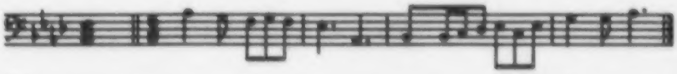


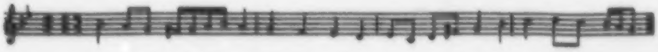
Melody (a)..........(a) ________

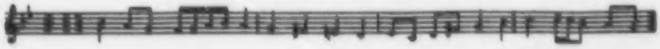
(A)


(B)


(C)


Melody (b)..........(b) ________

(A)


(B)


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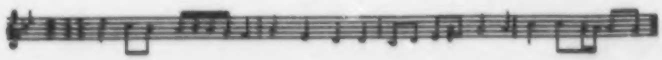
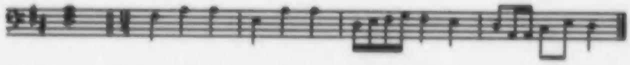
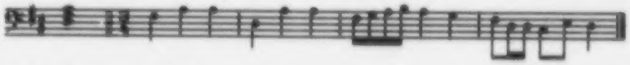
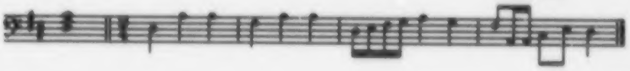


Value

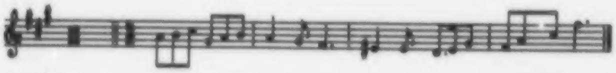
Melody (c)..(c) ____________

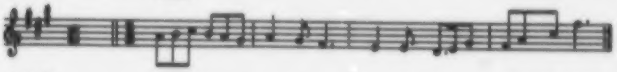
(A) 

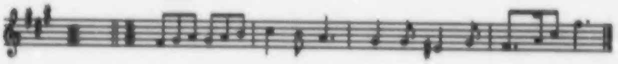
(B) 

(C) 

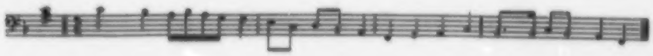
Melody (d)..(d) ____________

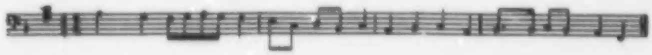
(A) 

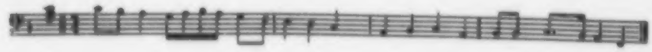
(B) 

(C) 

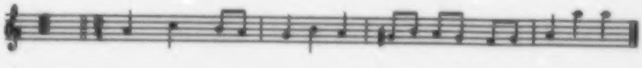
Melody (e)..(e) ____________

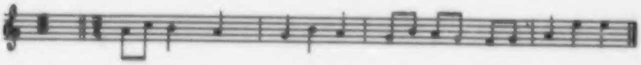
(A) 

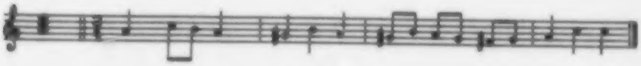
(B) 

(C) 

Melody (f)..(f) ____________

(A) 

(B) 

(C) 

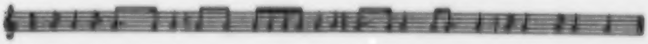
Value

12 3. **RHYTHM IDENTIFICATION**

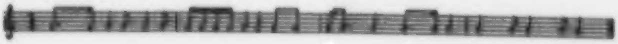
You will hear six rhythms, numbered (a) to (f), each performed twice. For each rhythm, three possible notations, A, B, and C, are given on your paper. You will be given time to examine the three possible notations before each of the six rhythm patterns. Listen carefully to each rhythm, and write the letter of the correct notation in the blank provided. Note that each rhythm will be preceded by one measure clapped.

EXAMPLE..(EX) __B_____

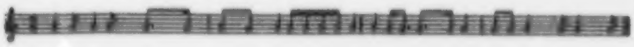
(A)



(B)

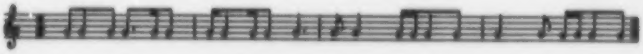


(C)

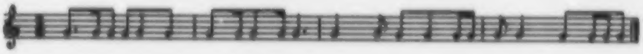


Rhythm (a)..(a) __________

(A)



(B)



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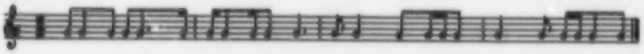
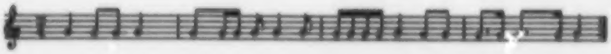


Rhythm (b)..(b) __________

(A)



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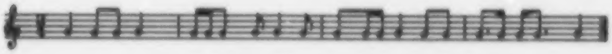

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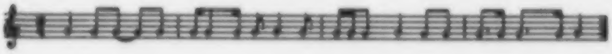
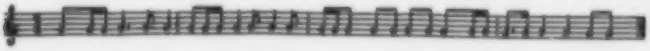


Rhythm (c)..(c) __________

(A)



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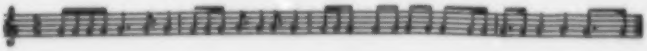

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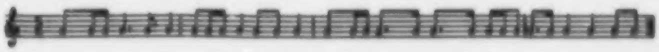
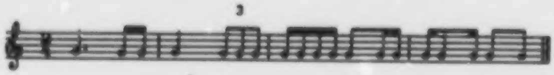


Value

Rhythm (d) ....(d) __________

(A)



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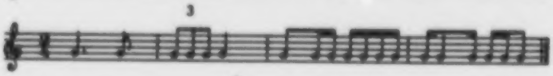
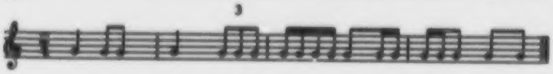
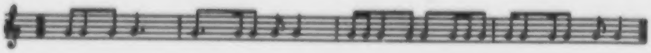


(C)



Rhythm (e) ....(e) __________

(A)



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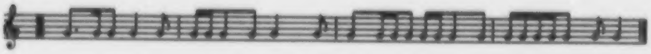
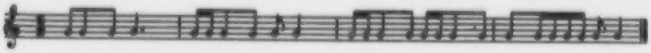
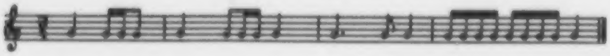


(C)



Rhythm (f) ....(f) __________

(A)



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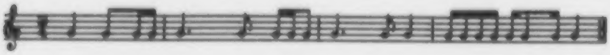
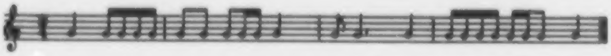


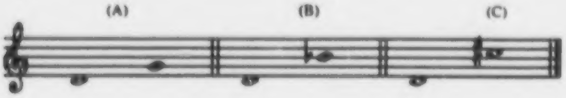
(C)



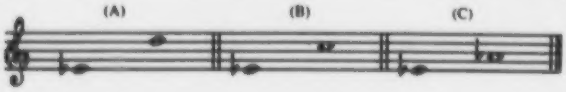
18 4. **INTERVAL IDENTIFICATION**

You will hear six intervals, numbered (a) to (f), each played twice. For each interval, three possible notations, A, B, C, are given on your paper. You will be given time to examine the three possible notations for each of the six intervals. Listen carefully to each interval, and write the letter of the correct notation for each in the blank provided.

EXAMPLE ....(EX) ___C___

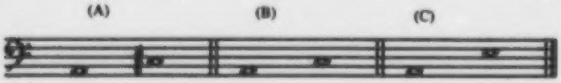


Interval (a) ....(a) __________

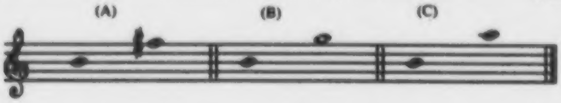


Value

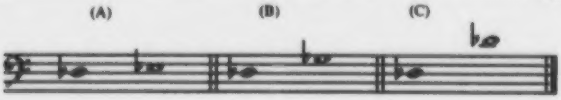
Interval (b) ....(b) ________



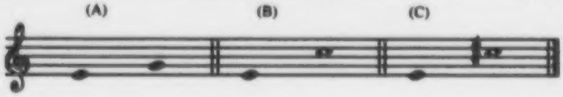
Interval (c) ....(c) ________



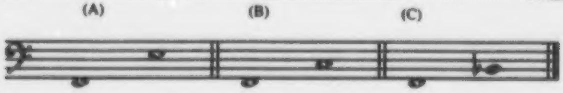
Interval (d) ....(d) ________



Interval (e) ....(e) ________



Interval (f) ....(f) ________



SECTION B

Do ALL items in this section. Total value: 32%

7 5. For each of the following descriptions, write in the blank provided the letter of the term described:

(a) A momentary or permanent conclusion in music..........(a) ________
- (A) coda
- (B) cadence
- (C) exposition
- (D) modulation

(b) A contrapuntal device whereby an extended melody, stated in one part, is imitated strictly and in its entirety in one or more other parts: ....(b) ________
- (A) overture
- (B) sequence
- (C) canon
- (D) chorale

(c) A short figure of characteristic design that recurs as a unifying element throughout a composition or a section: ....(c) ________
- (A) motif
- (B) phrase
- (C) fugue
- (D) morendo

(d) Music that combines several simultaneous voice-parts of individual design: ....(d) ________
- (A) canon
- (B) fugue
- (C) cantabile
- (D) polyphony

Value

(e) Any deliberate disturbance of the normal pulse of meter, accent, and rhythm: ....(e) __________
- (A) diatonic
- (B) ostinato
- (C) agitato
- (D) syncopation

(f) The section in the sonata form which contains the initial statement of themes: ....(f) __________
- (A) exposition
- (B) coda
- (C) recapitulation
- (D) introduction

(g) Music which is confined to the notes of a given scale: ....(g) __________
- (A) modal
- (B) chromatic
- (C) diatonic
- (D) absolute music

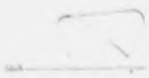
10 6. For each of the descriptions or definitions in Column II, write in the space provided the letter of the term from Column I which is described. The first one is done as an example.

- (A) Meno Mosso
- (B) Recapitulation
- (C) Staccato
- (D) A Tempo
- (E) Mezzo Piano (mp)
- (F) Allegro
- (G) Coda
- (H) Lento
- (I) Crescendo <
- (J) Chromatic
- (K) Modulation

(a) increase in volume ....(a) ____I____
(b) return to normal tempo..................................(b) __________
(c) less quickly ....(c) __________
(d) semitone intervals ....(d) __________
(e) change of key in a composition.....................(e) __________
(f) slow...(f) __________
(g) restatement of exposition material ....(g) __________
(h) fast tempo...(h) __________
(i) play less than soft...(i) __________
(j) notes played short ....(j) __________
(k) a concluding section.......................................(k) __________

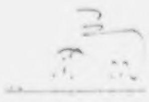
6 7. (a) For each of the following diagrams, **circle** the correct time signature corresponding to the conducting pattern illustrated in the diagram.

(i)



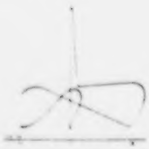
$\frac{3}{4}$ $\frac{4}{4}$ $\frac{6}{8}$

(ii)



$\frac{3}{4}$ $\frac{6}{8}$ $\frac{9}{8}$

(iii)



$\frac{2}{4}$ $\frac{4}{4}$ $\frac{6}{8}$

Value

9 (b) Discuss how the conductor contributes to the musical performance of an ensemble through his/her use of each of the following:

(i) Baton
(ii) Left Hand
(iii) A Warm-up Piece

SECTION C

Do any **ONE** complete item in this section. Total value: 18%.

8. Do **both** parts of this item, (a) and (b).

9 (a) Give a brief description of the chorale, including its origin.

Value

9 (b) Briefly discuss the use of the chorale in the Baroque era by Johann Sebastian Bach.

9. Do **both** parts of this item, (a) and (b).

9 (a) Briefly discuss the origins of the symphony and describe the general form structure (classical).

9 (b) List the instrumentation of the Classical Symphony, and name **ONE** classical composer of symphonies.

Value

10. Do **both** parts of this item, (a) and (b).

9 (a) Give a brief description of Program Music, and include ONE example of the musical techniques used to express emotions or feelings.

9 (b) Give a brief description of Beethoven's "Pastoral Symphony", outlining the various movements and the musical feeling expressed by each movement.

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

WESTERN RELIGIONS 3100

JUNE 1989

PART I

Value: 25 marks

Time: 30 minutes

Examination Number ____________________

GENERAL INSTRUCTIONS

1. Part I consists of objective items only, arranged in two sections as follows, and candidates are required to do **ALL** items:

   SECTION A — Completion items — 15%
   SECTION B — Multiple-choice items — 10%

2. All answers are to be written in this paper.

3. Be sure to write your Examination Number in the space provided above.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the chief Supervisor prior to the first session, and have been posted for further reference near the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

— Materials required
— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

SECTION A

Write the correct response for each of the following in the blank at the right. Total value: 15%.

1. Who is referred to as the 'second founder' of Christianity? ....(1) ____________________

2. What month is the most important period of fasting for Moslems? ....(2) ____________________

3. What is the Jewish term meaning 'fit to eat'? ....(3) ____________________

4. Which term refers to the study of man's moral behaviour? ....(4) ____________________

5. What is the Christian Movement toward unity? ....(5) ____________________

6. What is the name of the fallen angel in which Moslems believe? ....(6) ____________________

7. What ceremony or rite symbolizes the pinnacle of boyhood and the beginning of manhood for Jewish boys? ....(7) ____________________

8. What term refers to the belief that God, though he created the world, doesn't interfere in its affairs? ....(8) ____________________

9. What is the Jewish 'festival of lights'? ....(9) ____________________

10. What were the forces called that were organized by the Popes to drive the Moslems out of the Holy Land? ....(10) ____________________

11. What term, translated literally, means "Anointed-One"? ....(11) ____________________

12. What term refers to the flight of Mohammed and his followers from Mecca to Medina in 622 A.D.? ....(12) ____________________

13. What international Jewish Movement was designed to establish a homeland for the world's Jews? ....(13) ____________________

14. What term refers to the belief that all objects, living and non-living, possess souls or spirits? ....(14) ____________________

15. What name was given to the walled-off areas where Jews were compelled to live during the Middle Ages? ....(15) ____________________

SECTION B

Write the letter of the correct response for each of the following in the blank at the right. Total value: 10%.

16. Which Gospel writer wrote his book to try to convert the Gentiles to Christianity? ....(16) __________
    (A) Matthew
    (B) Mark
    (C) Luke
    (D) John

17. What is the 'Day of Atonement', considered to be the holiest Jewish holiday? ....(17) __________
    (A) Pentecost
    (B) Hanukkah
    (C) Sukkoth
    (D) Yom Kippur

18. What term refers to the 'taking of human nature' by Jesus? ....(18) __________
    (A) Idolatry
    (B) Immaculate Conception
    (C) Incarnation
    (D) Indulgence

19. What is the unofficial sixth duty of Moslems, sometimes referred to as the struggle? ....(19) __________
    (A) Hajj
    (B) Jihad
    (C) Rak'a
    (D) Ramadan

20. In Judaism, what term refers to the quorum of ten men essential for public prayer? ....(20)__________
    (A) Mishnah
    (B) Matzah
    (C) Minyan
    (D) Mechitza

21. What person in the Moslem religion summons the faithful to prayer? ....(21)__________
    (A) Sufi
    (B) Muezzin
    (C) Madhi
    (D) Imam

22. What are the black leather straps called which a thirteen-year-old boy wears to the weekday morning prayers in the synagogue? ....(22)__________
    (A) T'fillin
    (B) Aliyah
    (C) Bar Mitzvah
    (D) Minyan

23. What term refers to the coming of the Holy Spirit fifty days after the resurrection? ....(23)__________
    (A) Ascension
    (B) Redemption
    (C) Pentecost
    (D) Supplication

24. Who led a Semetic tribe from Ur in Southern Mesopotamia to a new land in Canaan? ....(24)__________
    (A) Moses
    (B) Joshua
    (C) Saul
    (D) Abraham

25. Who drew up the famous 'Five Proofs' for the existence of God? ....(25)__________
    (A) Darwin
    (B) Thomas Aquinas
    (C) St. Augustine
    (D) Oliver Cromwell

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

WESTERN RELIGIONS 3100

JUNE 1989

PART II

Value: 75 marks

Time: 1 hour, 30 minutes

GENERAL INSTRUCTIONS

1. Part II consists of essay items only, arranged in four sections with requirements as follows:

   SECTION A — Do any ONE — 15%
   SECTION B — Do any ONE — 15%
   SECTION C — Do any ONE — 15%
   SECTION D — Do any TWO — 30%

2. Answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

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— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
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— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

Value

SECTION A

Do any **ONE** complete item in this section. Total value: 15%.

15 1. Judaism is divided into three main sects: Reform, Orthodox and Conservative. Using specific details to illustrate your answer, explain the beliefs of each of these sects.

15 2. Identify and briefly discuss **THREE** of the following rites that are basic to Jews.

(a) Charity

(b) Circumcision

(c) Dietary Laws

(d) Bar Mitzvah

3. The most important part of the convenant at Sinai was the concept of the 'Chosen People'.

3 (a) What is the origin of the concept of the 'Chosen People'?

6 (b) Explain what the concept of the 'Chosen People' means to the Jews.

6 (c) How has this concept of the 'Chosen People' affected the history of the Jews? (Use at least two examples.)

SECTION B

Do any **ONE** complete item in this section. Total value: 15%.

4. "Paul's importance to Christianity can scarcely be overestimated."

5 (a) How did Paul become a Christian?

10 (b) What were his contributions to the Church?

15 5. Many individuals played important roles in the development and/or subsequent growth of Christianity. Explain the significance to Christianity of any **THREE** of the following:

(a) John the Baptist

(b) Constantine

(c) St. Thomas Aquinas

(d) St. Francis

6. The Protestant Reformation started as a result of Martin Luther's attempt to bring change to the existing Catholic Church.

6 (a) What were **THREE** of Luther's reasons for breaking away from the Catholic Church?

9 (b) Luther introduced several new concepts when he broke with the Catholic Church. Among these were:

(1) the priesthood of all believers
(2) the true Church
(3) justification by faith alone
(4) consubstantiation

Explain any **THREE** of these new concepts, and show how they differ from the teachings of the Catholic Church.

Value

SECTION C

Do any **ONE** complete item in this section. Total value: 15%.

7. For the followers of Islam, the Five Pillars of Faith are very important in bringing their religion alive.

2 (a) What does the word 'pillar' symbolize in this case?

10 (b) Outline the Five Pillars of Faith.

3 (c) Choose one of the 'Pillars', and explain why it makes this religion very strong.

15 8. Identify and explain any **THREE** of the following terms taken from the religion of Islam.

(a) Koran

(b) Mecca

(c) Hegira

(d) Ramadan

15 9. Briefly discuss the teachings of Islam with respect to any **THREE** of the following:

(a) The status of women

(b) Toleration of other religions

(c) Death and the Afterlife

(d) The role of Mohammed

SECTION D

Do any **TWO** complete items in this section. Total value: 30%.

15 10. Comment on any **THREE** of the following elements of religion as they are viewed in most of the world's major living religions.

(a) Idea of God

(b) Idea of Soul

(c) Idea of Ethics

(d) Sacred literature

(e) Religious personalities

15 11. In recent years, the Churches have become involved in a number of social and political activities. Discuss this involvement by referring to at least **FIVE** activities in total.

15 12. Write explanatory notes on any **THREE** of the following:

(a) People's Temple

(b) Aims of the Ecumenical Movement

(c) The Moral Majority

(d) Billy Graham

(e) The Jesus Revolution

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

WORLD RELIGIONS 3101

JUNE 1989

PART I

Value: 50 marks Time: 1 hour

Examination Number________________

GENERAL INSTRUCTIONS

1. Part I consists of objective items only arranged in two sections as follows, and candidates are required to do **ALL** items.

   SECTION A — 30 multiple choice — 30%
   SECTION B — 20 completion — 20%

2. All answers are to be written in this paper.

3. Be sure to write your Examination Number in the space provided above.

REGULATIONS FOR CANDIDATES

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SECTION A

Write the letter of the correct response for each of the following in the blank at the right. Total value: 30%.

1. What Hindu term refers to the liberation of the soul from the seemingly endless cycle of births, deaths, and rebirths? (1) ________
   (A) Bhakti
   (B) Samsara
   (C) Moksha
   (D) Maya

2. Which of the following, consisting of a dialogue between Krishna and Ayrina, is the best known and most widely read of all Indian works? (2) ________
   (A) Bhagavad Gita
   (B) Puranas
   (C) Mahabharata
   (D) Upanishads

3. What part of the Hindu caste system consists of the upper middle class who are primarily involved in government and professional life? (3) ________
   (A) Vaisyas
   (B) Sudras
   (C) Brahmins
   (D) Kshatriyas

4. Which of the following is the most holy Muslim city and the birthplace of Muhammed? (4) ________
   (A) Medina
   (B) Mecca
   (C) Jerusalem
   (D) Bethlehem

5. What term describes the pilgrimage to the Holy City which every Muslim must try to complete at least once in his lifetime? (5) ________
   (A) Salat
   (B) Surah
   (C) Hajj
   (D) Mulla

6. What are the chapters of the Muslim Holy Book called? (6) ________
   (A) Caliphs
   (B) Doctrines
   (C) Mullas
   (D) Surahs

7. Which of the following refers to Muhammed's flight from the Holy City? (7) ________
   (A) Ka'Aba
   (B) Muezzin
   (C) Hadith
   (D) Hegira

8. Which of the following is NOT a branch of Islam? (8) ________
   (A) Sufis
   (B) Muzzites
   (C) Sunnis
   (D) Shi'ites

9. Which of the following is NOT a reason for the resurgence of Islam since World War II? (9) ________
   (A) It has racial barriers.
   (B) Israel has become a prominent power.
   (C) The religion is simple to convey and understand.
   (D) Muslims believe in going to war to either defend or spread Islam.

10. Which of the following is NOT one of the Five Pillars of Faith? (10) ________
   (A) The Creed
   (B) Prayer
   (C) Baptism
   (D) Fasting

11. Prior to his death in 1539 A.D., who did Guru Nank appoint as his successor? .... (11) __________
(A) Lahina
(B) Mardana
(C) Moses
(D) Arjan

12. Which of the following is **NOT** true regarding ancestor worship? .... (12) __________
(A) It is sometimes practised out of fear
(B) It is believed that ancestors could bless the living with prosperity
(C) It is a means whereby dead relatives could be kept informed of earthly happenings
(D) It had diminished in popularity by the time of Confucius

13. Which of the following Buddhist precepts would apply only to monks and nuns? .... (13) __________
(A) Kill no living thing
(B) Tell no lies
(C) Do not commit adultery
(D) Do not sleep in luxurious beds

14. Which of the following is the method of sitting in Zen Buddhism, done daily at specific times with additional periods of intense meditation lasting for one week? .... (14) __________
(A) Kishen
(B) Roshi
(C) *Zazen*
(D) Satori

15. Which of the following is **NOT** a moral attribute ascribed to Jesus during His earthly ministry? .... (15) __________
(A) Love
(B) Eternal
(C) Truth
(D) Holy

16. Which of the divine works attributed to Christ drew the strongest negative reaction from the religious leaders of His time? .... (16) __________
(A) forgiveness of sins
(B) bestowing of eternal life
(C) creation of all things
(D) healing of many people

17. Which of the following is **UNTRUE** regarding the "Doctrine of Man"? .... (17) __________
(A) It is expressed in the Westminster Shorter Catechism
(B) It suggests that man was made in the Image of God
(C) It differentiates man from the remainder of Creation
(D) It suggests that man has lost his unique identity

18. Which doctrine would all three major branches within Christendom have difficulty accepting without qualification or modification? .... (18) __________
(A) Doctrine of God
(B) Doctrine of the Church
(C) Doctrine of Salvation
(D) Doctrine of Authority

19. Which of the following was **NOT** a Jewish king? .... (19) __________
(A) Joshua
(B) David
(C) Saul
(D) Solomon

20. Which of the following Jewish Holy Days does **NOT** have any foundation within Scripture? .... (20) __________
(A) Passover
(B) Rosh Hashanah
(C) Sukkoth
(D) Hanukkah

21. Into what two kingdoms was Israel divided following the death of Solomon? .... (21) __________
(A) Israel and Judea
(B) Judea and Jordan
(C) Judea and Palestine
(D) Syria and Israel

22. What is the most important and holiest Jewish Holy Day? ....(22) __________
(A) Sabbath
(B) Passover
(C) Yom Kippur
(D) Seder

23. Which two religions did Nanak attempt to blend together? ....(23) __________
(A) Islam and Hinduism
(B) Christianity and Islam
(C) Hinduism and Buddhism
(D) Judaism and Islam

24. Which of the following statements would a Buddhist most likely reject? ....(24) __________
(A) There is no such thing as sin against a supreme being.
(B) A buddhist world view is basically monistic.
(C) Man is of infinite value and will exist eternally.
(D) The universe is subject to karma.

25. Which of the following books is the sacred scripture for Sikhism? ....(25) __________
(A) *Koran*
(B) *Mahayana*
(C) *Granth-Sahib*
(D) *Mardana*

26. Which of the following books contains the sayings of Confucius and his disciples? ....(26) __________
(A) ***Analects***
(B) ***Five Classics***
(C) ***Pitaka***
(D) ***Feng Shui***

27. What country contains the province of Punjab in which most Sikhs are found? ....(27) __________
(A) China
(B) Japan
(C) India
(D) Pakistan

28. What term refers to the study of salvation and atonement? ....(28) __________
(A) Soteriology
(B) Christology
(C) Evangelism
(D) Divinity

29. Which of the following is a **TRUE** statement regarding the doctrine of the Holy Spirit? ....(29) __________
(A) The doctrine of the Holy Spirit is consistently taught in all major religions.
(B) The Holy Spirit is the third person of the Trinity.
(C) Judaism recognizes the essential teaching of the workings of the Holy Spirit.
(D) The Holy Spirit is a main concern in Hinduism.

30. Which of the following religions does **NOT** emphasize the necessity of works in its discussion of salvation? ..(30) __________
(A) Buddhism
(B) Islam
(C) Christianity
(D) Confucianism

SECTION B

Write the correct response for each of the following in the blank at the right. Total value: 20%.

31. What is viewed by Hindus as transitory and of secondary importance to the realization of Brahman; in contrast, Christians regard this as having its source in the creative will of God? ....(31) __________

32. What is the Islamic belief which maintains that all things, both good and bad, result from Allah's will? ....(32) __________

33. What is the shrine, thought to have been originally built by Abraham for the worship of the "one true God", that is the focus of activity during the Hajj? ....(33) __________

34. What term refers to the Confucian belief that all members of society must act their proper part — also known as "rectification of names"? ....(34) __________

35. What is the concept within Confucianism that can best be described as devotion and obedience by the younger members of a family to their elders? ....(35) ____________________

36. What is the spiritual state that Buddhists believe is reached when one has been successful in extinguishing all passion, hatred, and delusion? ....(36) ____________________

37. Which one of the founders of the Theosophical Society proposed a common platform for all Buddhist schools of thought? ....(37) ____________________

38. In what language was the Koran written? ....(38) ____________________

39. What branch of Buddhism developed at the beginning of the Christian era and became quite popular outside of India because of its liberal interpretation of Guatama's teaching? ....(39) ____________________

40. Which branch of Christendom believes that Scripture alone is the final authority on all matters of faith and practice? ....(40) ____________________

41. What term refers to the fourteen books which are regarded as uncanonical by Protestants because they fail to meet the accepted standards of reliability and inspiration? ....(41) ____________________

42. What individual is regarded as the founder of Judaism? ....(42) ____________________

43. What term was originally used to refer to the personal special messenger that God would send to deliver Israel from her oppressors? ....(43) ____________________

44. What concept do Jews, in contrast to Christians, prefer to reject in favour of an emphasis upon man's original virtue and righteousness? ....(44) ____________________

45. What term is used to describe the six million Jews that were killed during World War II? ....(45) ____________________

46. Who was the first king of Israel? ....(46) ____________________

47. What holy day marks the Jewish New Year? ....(47) ____________________

48. What is the Christian doctrine that there are three persons in the Godhead? ....(48) ____________________

49. What branch of Judaism was founded by Abraham Geieger? ....(49) ____________________

50. What is the place of public worship within the Islamic community? ....(50) ____________________

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

WORLD RELIGIONS 3101

JUNE 1989

PART II

Value: 50 marks

Time: 1 hour

GENERAL INSTRUCTIONS

1. Part II consists of essay items only arranged in three sections with requirements as follows:

   SECTION A — Do any ONE complete item — 10%
   SECTION B — Do any ONE complete item — 16%
   SECTION C — Do any TWO complete items — 24%

2. All answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the Chief Supervisor prior to the first session, and have been posted for further reference near the entrance to the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

- Materials required
- Materials not permitted
- Use of handheld calculator
- Use of pen or pencil
- Communication and movement during the examination
- Punctuality
- Leaving the room
- Use of answer booklets
- Completion of required information
- Use of unauthorized means, and penalties

Value

SECTION A

Do any **ONE** complete item from this section. Total value: 10%.

7 1. (a) Philosophers and theologians have been attempting to define "religion" for centuries. Show that their efforts have not resulted in any one concise, unanimously accepted definition.

3 (b) In your introductory study to World Religions, discussion focussed on the attitude that should be demonstrated toward the study of non-christian religions by individuals who are Christian or of a Christian heritage. Suggest and support an appropriate attitude for a Christian in this regard.

10 2. Two commonly held misconceptions regarding the non-christian religions are: (1) all religions are equally valid approaches to God, and (2) all non-christian religions are totally without truth or virtue. Citing specific examples from **Christianity** and at least **two other** religions, discuss why these two views are unacceptable.

SECTION B

Do any **ONE** complete item from this section. Total value: 16%.

8 3. (a) Select **TWO** of the major branches within Judaism from the three listed below, and compile descriptive and comparative notes. Attempt to show several distinctive features of each group, mentioning historical figures as necessary:

(i) Conservative
(ii) Reform
(iii) Orthodox

6 (b) The covenantal relationship has been a constant theme within Judaism. Discuss **THREE** covenantal agreements between Jehovah and his chosen people.

2 (c) Briefly explain one of the following aspects of the Judaistic tradition:

(i) Sabbath
(ii) Exilic Period

8 4. (a) Make a biographical outline of the life of Mohammed, Islam's founder. Include key dates, names and significant events.

8 (b) The Five Articles of Faith listed below serve as the basis for Islamic doctrine. Discuss any **FOUR** of these Articles.

(i) God
(ii) Angels
(iii) Scripture
(iv) Prophets
(v) Last Days

SECTION C

Do any **TWO** complete items from this section. Total value: 24%.

8 5. (a) Explain how the caste system of India is believed to have developed, and comment briefly on each of the four classes.

4 (b) Discuss the statement: "Hinduism can be considered one faith or many".

12 6. Write a biographical sketch of Siddhartha Gautama, the founder of Buddhism. Structure your sketch around the following stages:

(1) early years
(2) four passing sights
(3) great renunciation
(4) enlightenment

Value

7. (a) According to Nanak, the founder of Sikhism, "There is no Muslim and there is no Hindu".

3 (i) What was Nanak's aim in presenting his new religion?

3 (ii) How successful have the Sikhs been in accomplishing Nanak's objective?

3 (b) Who was Mencius, and why was he so important to the development of Confucianism?

3 (c) Some people say that Confuciansim should not be considered a religion since it deals primarily with moral conduct and the ordering of society. How would you refute this idea?

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

GOSPELS 3105

JUNE 1989

PART I

Value: 40 marks

Time: 45 minutes

Examination Number ______ __________

GENERAL INSTRUCTIONS

1. Part I consists of objective items only arranged in two sections as follows, and candidates are required to do **ALL** items.

   SECTION A — 20 completion — 20%
   SECTION B — 20 multiple-choice — 20%

2. All answers are to be written in this paper.
3. Be sure to write your Examination Number in the space provided above.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the chief Supervisor prior to the first session, and have been posted for further reference near the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

— Materials required
— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

SECTION A

Write the correct response for each of the following in the blank at the right. Total value: 20%.

1. What term is translated from the Greek word "euangelion"? ....(1) ______________
2. To whom does Luke trace Christ's genealogy? ....(2) ______________
3. Which gospel contains the most quotations and allusions to the Old Testament? ....(3) ______________
4. Christ as servant, particularly a suffering servant, is the theme of which gospel? ....(4) ______________
5. Which gospel has a heavy theological emphasis and is believed to have been written last? ....(5) ______________
6. What was Luke's occupation? ....(6) ______________
7. According to the teachers of the law, who helped Jesus cast out demons? ....(7) ______________
8. What is the name of the road along which Jesus was led to the cross? ....(8) ______________
9. What was the name of the Rabbi in New Testament times who permitted divorce only for something morally shameful? ....(9) ______________
10. Which miracle is the only one narrated in all four gospels? ....(10) ______________
11. What was the request that James and John made to Christ in Mark 10:37? ....(11) ______________
12. What symbolism does "cup" have in the Old Testament? ....(12) ______________
13. What city was known as "The City of Palms"? ....(13) ______________
14. What is meant by the symbol of yeast in the New Testament? ....(14) ______________
15. What does the fig tree represent in Mark 11:20? ....(15) ______________
16. What was the Aramaic word for father used by Christ in his prayer at Gethsemane? ...(16) ______________
17. What symbol of love and respect did Judas twist into a sign of betrayal at the arrest of Jesus? ....(17) ______________
18. Who went boldly to Pilate and requested the body of Jesus for burial? ....(18) ______________
19. What historical event is the focal point of all four Gospel accounts? ....(19) ______________
20. Which Gospel is thought to have been the first written? ....(20) ______________

SECTION B

Write the letter of the correct response for each of the following in the blank at the right. Total value: 20%.

21. What book(s) of the Bible does the term 'apocalyptic' refer? ....(21) ________
    - (A) Prison Epistles
    - (B) Revelation
    - (C) Hebrews
    - (D) Mark
22. When approximately was the gospel of Matthew believed to have been written? ....(22) ________
    - (A) 24 B.C.
    - (B) 30 A.D.
    - (C) 70 A.D.
    - (D) 90 A.D.
23. To what audience was the gospel of Mark written primarily? ....(23) ________
    - (A) Jews
    - (B) European slaves
    - (C) Gentile Romans
    - (D) Greeks

24. What administrative area was a league of ten cities east of the Jordan River? ....(24) __________
(A) Judea
(B) Galilee
(C) Perea
(D) Decapolis

25. Which of the following statements is **TRUE** concerning the doctrine of the Trinity? ....(25) __________
(A) There are three separate gods who exist independently of each other.
(B) There are three distinct, yet co-equal, persons in the godhead.
(C) There is no evidence of the working of the Trinity in the New Testament.
(D) The word "trinity" appears frequently in both the Old and the New Testaments.

26. What religious and political party had as its main goal the winning of Israel's independence? ....(26) __________
(A) Zealots
(B) Sadducees
(C) Essenes
(D) Pharisees

27. Which of the following best describes how Jesus' family reacted to his early ministry? ....(27) __________
(A) They believed that he was insane and they were no longer concerned about him.
(B) They understood his ministry but, for fear of the Jews, would not support him.
(C) They believed he was so involved with his work that he was not caring for his physical needs.
(D) They believed he was the Messiah and they fully supported his ministry.

28. Which of the following was **NOT** part of the Mission of the sending of the twelve? ....(28) __________
(A) heal the sick
(B) preach repentance
(C) proclaim Jesus as the Christ
(D) drive out demons

29. To which of the following does the term "corban" refer? ....(29) __________
(A) Jewish Law
(B) item of clothing
(C) gift devoted to God
(D) synagogue ritual

30. Which of the following refers to the Greek work meaning "sent" or "to be a representative"? ....(30) __________
(A) didaskalos
(B) euangelion
(C) apostellein
(D) septuagint

31. Which of the following was **NOT** subject to a death sentence? ....(31) __________
(A) breaking the Sabbath Laws
(B) blaspheming the name of God
(C) murder
(D) image worship

32. Which of the following was **NOT** part of Jerusalem? ....(32) __________
(A) Pool of Bethesda
(B) The Temple
(C) Elisha's Fountain
(D) The Praetorium

33. To what did the "Yeast of the Pharisees" refer? ....(33) __________
(A) type of hypocrisy
(B) emphasis on rules
(C) "would only believe if they saw a sign"
(D) special kind of bread

34. Which of the following terms did Jesus often use to refer to himself? ....(34) __________
(A) Christ
(B) Son of Man
(C) Messiah
(D) Son of David

35. What is the significance of the withered fig tree story found in Mark 11:20-25? ....(35) __________
(A) Jesus' ministry was about to conclude.
(B) Jesus' suffering and rejection were being symbolized.
(C) The Jewish system was about to be replaced by an economy which would embrace all people.
(D) God's house is to be a house of prayer and all nations should have access to it.

36. Which of the following are the basic themes of Mark 14:1 - 16:20? ....(36) __________
    (A) Independence and Reconstruction
    (B) Independence and Triumph
    (C) Failure and Slavery
    (D) Suffering and Triumph

37. What is the important lesson that can be found in the story of the Last Supper? ....(37) __________
    (A) You cannot trust even your best friend.
    (B) God remains in control despite what might appear to be a terrible and tragic event.
    (C) We must be careful with our friendships when theological issues arise
    (D) Jesus made a mistake when he chose Judas as a disciple.

38. Which of the following is **NOT** a correct statement regarding Mark 16:9-20? ....(38) __________
    (A) It is written by someone other than Mark but is still recognized as scripture.
    (B) It describes Resurrection appearances which are discussed in more detail in other accounts.
    (C) It focuses on Paul's early missionary activities.
    (D) It discusses miraculous signs.

39. According to Mark's account, which of the following groups of people discovered the empty tomb? ....(39) __________
    (A) Mary, Mark and Salome
    (B) Mary, Mary and Salome
    (C) Mary, Peter and Paul
    (D) Matthew, Paul and Peter

40. What were the two stages of the trial of Christ? ....(40) __________
    (A) Jewish trial and an Orthodox trial
    (B) Blaspheme trial and an Orthodox trial
    (C) Roman trial and a Greek trial
    (D) Jewish trial and a Roman trial

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

GOSPELS 3106

JUNE 1989

PART II

Value: 60 marks

Time: 1 hour, 15 minutes

GENERAL INSTRUCTIONS

1. Part II consists of essay items only arranged in four sections with requirements as follows:

   SECTION A — Do any ONE complete item — 14%
   SECTION B — Do ALL items — 15%
   SECTION C — Do any ONE complete item — 15%
   SECTION D — Do ALL items — 16%

2. All answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

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Value

SECTION A

Do any **ONE** complete item from this section. Total value: 14%.

10 1. (a) Describe the major characteristics of **either** the Pharisees **or** the Sadducees.

4 (b) Explain any **two** of the following terms:

(i) Corban
(ii) Abba
(iii) Professional Mourners

7 2. (a) Describe what a typical Jewish house looked like during the first century.

4 (b) "Though tax-collectors were generally despised during the time of Jesus, their positions were in high demand." Discuss this statement.

3 (c) Give **three** reasons to explain why Jesus sent his disciples out "two by two".

SECTION B

Do **ALL** items in this section. Total value: 15%.

3 3. Why did Jesus keep his identity as Messiah a secret through much of his ministry?

4. Each part, (a) to (d), of this item poses two tasks or questions based on a particular miracle of Jesus. Do any **TWO** parts based on the miracles of your choice.

4 (a) **Stilling of the Storm** — Mark 4:35-41

(i) How did the disciples' reaction to the storm indicate their lack of understanding regarding Christ?

(ii) How did this miracle recall the power of Old Testament times?

4 (b) **The Faith of the Syrophoenician Woman** — Mark 7:24-37

(i) What did Jesus say to the woman who begged him to drive the demon out of her daughter? Was it a rude remark? Why?

(ii) What was her reply? What did it indicate?

4 (c) **Healing the Blind Man at Bethsaida** — Mark 8:1-26

(i) This healing points back to what kind of messianic prophecy?

(ii) This healing was in two parts. What does this suggest?

4 (d) **Healing the Boy with an Evil Spirit** — Mark 9:2-29

(i) Why were the disciples unable to cast out the demon?

(ii) What was unusual about the father's attitude?

4 5. Briefly discuss the concept of "unbelief", as expressed in the New Testament by various groups, communities, and individuals.

Value

SECTION C

Do the **ONE** complete item in this section. Total value: 15%.

6. Throughout his ministry Jesus relied on the parable as a main method of teaching. Matthew 13:34 states, "He did not say anything to them without using a parable."

2 (a) Explain the meaning of the term "parable".

1 (b) Explain why there are relatively few parables found in Mark's gospel.

12 (c) For any **three** of the six parables listed below:

(1) Explain the main idea of each parable selected, and
(2) Explain in what context the parable was presented.

(i) The Sower — Mark 4:1-9
(ii) Mustard Seed — Mark 4:30-32
(iii) Salt — Mark 9:50
(iv) Light — Mark 4:21-22
(v) New Wine — Mark 2:22
(vi) Fig Tree — Mark 13:28-31

SECTION D

Do **ALL** items in this section. Total value: 16%.

6 7. The trial of Christ took place in two stages: a Jewish trial and a Roman trial. Each of the stages had three episodes. Develop a discussion of **one** of these stages outlining the events which occurred and considering the outcome of the trial.

4 8. What statement constitutes the pivotal point in the Gospel of Mark? Explain the details surrounding this statement. Why is it considered to be the pivotal point?

6 9. Choose **two** quotations of Christ which you studied this year, and for each:

(1) State the quotation, and

(2) Explain its meaning based on contextual considerations.

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

THE NEW TESTAMENT 3100

JUNE 1989

Value: 100 marks

Time: 2 hours

GENERAL INSTRUCTIONS

1. The examination consists of essay items only arranged in four sections with requirements as follows:

   SECTION A — Do any ONE item — 20%
   SECTION B — Do any TWO items — 30%
   SECTION C — Do any TWO items — 30%
   SECTION D — Do any ONE item — 20%

2. Answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

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Value

SECTION A

Do any **ONE** complete item from this section. Total value: 20%

12 1. (a) Historians have noted some non-Christian references from outside the gospel records which indicate that Jesus was real and that he lived in a real country. Comment on **THREE** such "outside" references.

8 (b) Judaism and Christianity are so closely related they are referred to as "Spiritual Cousins". Comment on this statement.

8 2. (a) The earliest gospel, "Mark", did not appear until AD 65-70; the other three followed within the next 20 years. Why were the gospels not written sooner?

12 (b) Why did Luke write his "Gospel" and the "Book of Acts"?

20 3. Write explanatory notes on any **FOUR** of the following:

(a) Torah
(b) People of the Land
(c) John the Baptist
(d) Synoptic Gospels
(e) Apocrypha Literature
(f) Canon

SECTION B

Do any **TWO** complete items from this section. Total value: 30%.

6 4. (a) Give the basic meaning of the word "parable", and tell how parables were used by Jesus.

9 (b) Summarize the "Parable of the Lost Sheep", and indicate the message that Jesus tried to get across to his listeners through the parable.

15 5. Write explanatory notes on any **THREE** of the following:

(a) Beatitudes
(b) Zacchaeus
(c) Passion Narrative
(d) Travel Narrative
(e) "Leper"

15 6. Describe the close connection between the Cross and the Resurrection, and comment on the importance of the Resurrection to the early Christian Church.

SECTION C

Do any **TWO** complete items from this section. Total value: 30%.

10 7. (a) Describe the Hebrew-Hellenist conflict of the early Church, and indicate how it was resolved.

5 (b) Distinguish between "Saul, the Persecutor" and "Paul, the Christian".

5 8. (a) What is meant by Paul's "silent years"?

10 (b) What early Christian problem led to the formation of the Jerusalem Council? How did the Council resolve this issue?

6 9. (a) The day of Pentecost was important to the early Christians. Describe what happened on that particular day, and state what is meant by the term "Pentecost"?

9 (b) Who was Simon the Magician, and why was he rebuked by the apostle Peter?

Value

SECTION D

Do any **ONE** complete item from this section. Total value: 20%.

10 10. (a) While in Athens, Paul made use of the altar to the "Unknown God" in his address to the court of the Areopagus. What did Paul say in this address?

10 (b) Some have argued that Paul's mission to Athens was a failure. Why might this be true?

10 11. (a) Many tradtions have developed in an attempt to explain what happened to Paul in Rome. Comment on **THREE** of these traditions.

10 (b) What were some of the conflicts experienced by the early Christian Church?

10 12. (a) The Gnostics and Docetists were two groups which represented false teachings in early Christianity. What ideas did these two groups promote?

10 (b) Why did Paul feel compelled to go to Jerusalem? Comment on the reception he got upon arrival and the compromise he made to the Jewish Christians there.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

BIOLOGY 3201

JUNE, 1989

GENERAL INSTRUCTIONS

1. This is a two part test. Part I consists of 80 multiple choice items. Part II consists of six written response items. Part I has a total value of 75 marks. Part II has a total value of 25 marks. Each part contains some items which are being tested for possible furture use. These items will not be counted towards your final mark.

2. Part I is to be answered using the answer sheet supplied. Please complete the answer sheet according to the instructions on the next two pages, and any other instructions given by the supervisor.

3. Part II is to be answered in the spaces provided in this test booklet. Please pass in the entire test booklet to the supervisor when you have finished the examination.

4. Please enter your Public Examination Number on this page, on the answer sheet, and on the first page of Part II as indicated.

5. Rough work or calculations may be done in any blank spaces in Part I and on the blank pages throughout Part II.

6. Total Time Allowed: 2 1/2 Hours.

PUBLIC EXAMINATION NUMBER ☐

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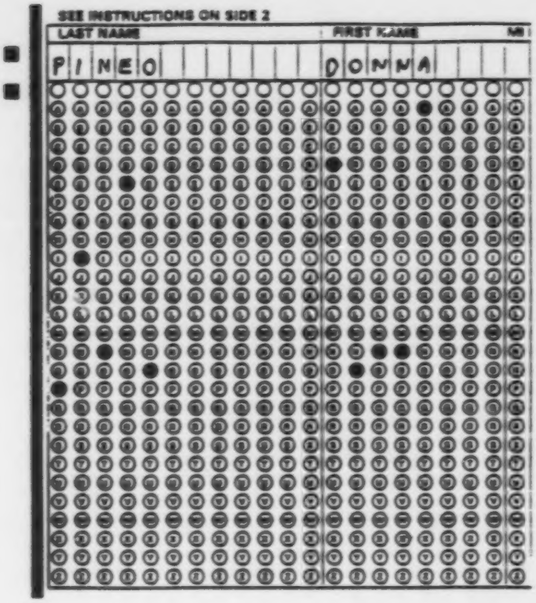
	1	2	3	4	5	6	Q

PART I

ANSWER SHEET INSTRUCTIONS

A SOFT PENCIL (HB) SHOULD BE USED ON THE ANSWER SHEET. DO NOT USE A PEN OR MARKER OF ANY KIND.

Please print your name in the blocks at the top left of the answer sheet and fill in the circle below each letter as indicated in the example below.



SEE INSTRUCTIONS ON SIDE 2

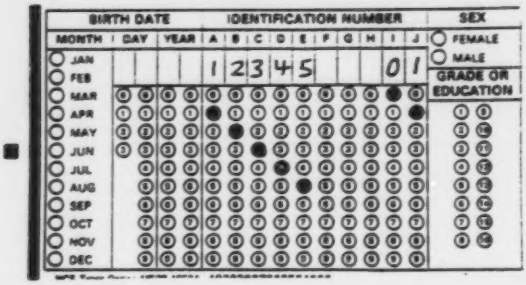
LAST NAME	FIRST NAME	MI
PINEO	DONNA	

MORE INSTRUCTIONS ON NEXT PAGE

Please place your Public Examination Number in columns A to E of the space marked IDENTIFICATION NUMBER as indicated below. The number should be written across the top row and the circles filled in as shown in the example.

Do not fill in the BIRTH DATE, SEX, OR GRADE COLUMNS.

This is FORM 01 of the examination. Please place this form number in columns I and J of the IDENTIFICATION NUMBER space exactly as shown in the example.


BIRTH DATE
IDENTIFICATION NUMBER
SEX
MONTH
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YEAR
A
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J
FEMALE
MALE
GRADE OR EDUCATION
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
1 2 3 4 5
0 1

When you begin the examination, each item should be answered by filling in the circle on the answer sheet corresponding to the correct response, as shown in the example below.

Item | **Answer Sheet**

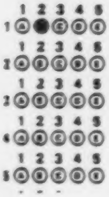
1. This examination is in the subject area of

   A. Chemistry

   B. Biology

   C. Physics

   D. Mathematics


1 2 3 4 5
1
2
3
4
5

DO NOT TURN THIS PAGE UNTIL TOLD TO DO SO

BY THE SUPERVISOR

1. Why did Watson and Crick suggest the double helix as the most likely shape for the DNA molecule?

   A. This is the shape which comes apart easiest.
   B. This is the most stable shape possible.
   C. This shape allows replication.
   D. This is the most compact shape possible.

2. Which is the main reason Redi was able to disprove the idea that living things are spontaneously generated from living things?

   A. He knew more about genetics than his predecessors.
   B. He used a controlled experiment.
   C. He had a clearer hypothesis than others.
   D. He was able to benefit from the work of Darwin.

3. Needham's experiments using infusions to demonstrate the occurrence of spontaneous generation can be questioned for which reason?

   A. Failure to boil the infusions
   B. Failure to use airtight seals on the flasks
   C. Lack of sufficient light
   D. Lack of sufficient time at room temperature

4. The following observations were made in an investigation of lipid digestion:

   1. Suppressing bile secretion reduced fat absorption.
   2. Suppressing pancreatic secretion reduced fat absorption.
   3. Suppressing both bile and pancreatic secretion greatly reduced fat absorption.

   What interpretation can be drawn from these observations?

   A. Fat absorption occurs only if fat is emulsified.

   B. Fat absorption is reduced if fat is not emulsified and digested.

   C. Bile secretion reduces fat absorption more than does pancreatic secretion.

   D. Pancreatic secretion contains a substance that significantly increases fat emulsification.

5. What information about fossils can be obtained from an investigation of layers of sedimentary rock?

A. Relative age
B. Relative complexity
C. Both relative age and relative complexity
D. Neither relative age nor relative complexity

6. What is the probability of obtaining all heads if a coin is tossed four times?

A. One-half
B. One-quarter
C. One-eighth
D. One-sixteenth

7. Which statement is associated with Thomas Malthus?

A. Evolution occurs through natural selection.
B. Organisms acquire new characteristics by use and disuse.
C. The first life forms developed through spontaneous generation.
D. The human population increases faster than the food supply.

8. Which statement represents the law of use and disuse?

A. Characteristics can be acquired to meet the needs of a changing environment.
B. Mutations can cause changes in living things.
C. Only changes in the sex cells can be inherited.
D. Variations within a population occur at random.

9. Which research provided convincing evidence for the chromosome theory of heredity?

A. Bridges' discovery of nondisjunction.
B. Morgan's discovery of sex determination.
C. Mendel's observations of trait transmission.
D. Sutton's observations about meiosis.

10. Which pollutants cause mutations when they accumulate in the tissues of organisms?

A. Lead compounds
B. Nitrogen oxides
C. Radioactive isotopes
D. Sulfur dioxides

11. Which blood transfusion would most likely cause difficulty for the recipient?

	Donor Blood Type	Recipient Blood Type
A.	O	AB
B.	A	AB
C.	A	O
D.	O	B

12. Which is the most important danger to human beings from radioactive fallout?

A. Radioactive substances are poisonous.
B. Radiation can speed up mutation rates.
C. Radiation can induce leukemia.
D. Some radioactive substances concentrate in bones.

13. Which type of gene directs the synthesis of proteins or polypeptides?

A. Inductor
B. Regulator
C. Repressor
D. Structural

14. Which part of the DNA molecule in sequence determines the genetic code?

A. Amino acids
B. Nitrogen bases
C. Ribose units
D. Sugar-phosphate units

15. Which substance is most likely to be absorbed by the lymphatic system?

    A. Fatty acids
    B. Amino acids
    C. Monosaccharides
    D. Minerals

16. The cardiac sphincter muscle controls the entrance to which structure in the food tube?

    A. Esophagus
    B. Large intestine
    C. Small intestine
    D. Stomach

17. What is the main function of red blood cells?

    A. Assist in blood clotting
    B. Produce antibodies
    C. Transport gases
    D. Transport nutrients

18. Which type of muscle is involuntary?

    A. Cardiac
    B. Flexor
    C. Skeletal
    D. Striated

19. Which blood cells release chemicals that aid in the blood clotting process?

    A. Lymphocytes
    B. Platelets
    C. Red cells
    D. White cells

20. Which term refers to the structure that surrounds a chick embryo?

    A. Allantois
    B. Amnion
    C. Chorion
    D. Yolk sac

21. During which stage do potassium ions enter the neuron?

    A. Action potential
    B. Refractory period
    C. Resting period
    D. Threshold period

22. What is the primary chemical cause of carbon monoxide poisoning?

    A. Carbon monoxide combines more readily with hemoglobin than does oxygen.
    B. Oxygen combines more readily with hemoglobin than does carbon monoxide.
    C. Carbon monoxide breaks down hemoglobin molecules.
    D. Carbon monoxide replaces oxygen in the air.

23. Which kind of structure is illustrated by cardiac muscle?

    A. Conductor
    B. Effector
    C. Receptor
    D. Transducer

24. Cotyledons are necessary in plant development until the plant can make its own

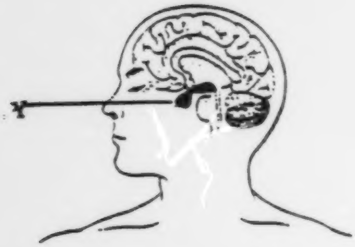
    A. Flowers
    B. Food
    C. Meristem
    D. Roots

25. Which is NOT a function of the peripheral nervous system?

    A. Coordination and balance
    B. Detection of hot and cold stimuli
    C. Involuntary responses
    D. Response to emergencies

26. Which endocrine gland produces oxytocin and vasopressin?

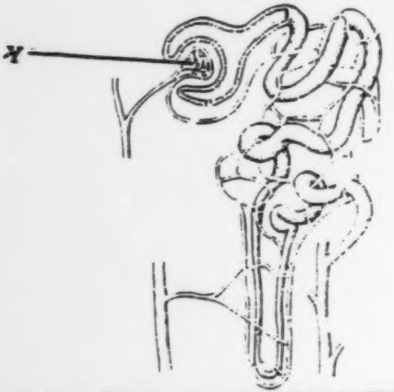
    A. Anterior pituitary
    B. Hypothalamus
    C. Medial pituitary
    D. Posterior pituitary



27. In the above diagram, which endocrine gland is indicated by Y?

A. Pineal
B. Pituitary
C. Thymus
D. Thyroid

A Human Nephron



28. In the above diagram, what name is given to structure Y?

A. Bowman's capsule
B. Collecting duct
C. Collecting tubule
D. Glomerulus

29. The chemical control system of the body utilizes complex molecules which move through the bloodstream to target organs. What are these molecules called?

A. Enzymes
B. Hormones
C. Neurotransmitters
D. Peptides

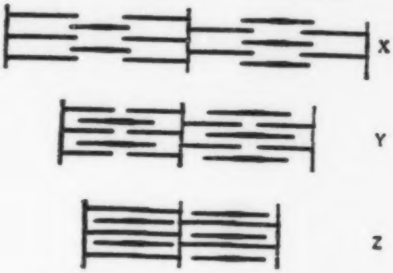
30. Which area of the brain controls the rate and depth of breathing?

A. Cerebrum
B. Medula Oblongata
C. Cerebellum
D. Hypothalamus

31. Which gas primarily regulates breathing by its presence in the blood?

A. Carbon dioxide
B. Hydrogen
C. Nitrogen
D. Oxygen

Protein filaments in a muscle fibril



32. In the above diagram which is/are the correct illustration(s) of a fully contracted muscle fibril?

A. X
B. X and Y
C. Z
D. X and Z

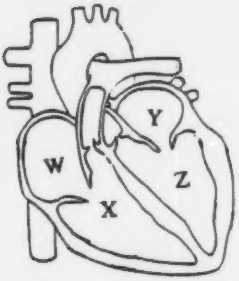
33. Where are red blood cells produced?

A. Bone marrow
B. Liver
C. Pancreas
D. Spleen

34. Which pathway is followed by the sperm on the way to the egg?

A. Seminiferous tubules - vas deferens - urethra - vagina - oviduct
B. Seminiferous tubules - seminal vesicles - urethra - oviduct - vagina
C. Seminiferous tubules - vas deferens - seminal vesicles - urethra - vagina
D. Seminiferous tubules - vas deferens - Cowper's gland - urethra - oviduct

Human Heart



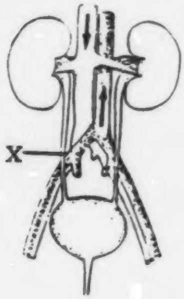
35. In the above diagram, which structure contains blood that has just returned from the lungs?

A. W
B. X
C. Y
D. Z

36. A person with a diseased gall bladder may experience difficulty in which of the following?

A. Digesting fat
B. Producing bile
C. Storing glycogen
D. Deaminating amino acids

Excretory System



37. What is the name of the structure labelled X in the above diagram?

A. Ureter
B. Rectum
C. Urethra
D. Collecting Duct

38. The presence of undigested proteins in the digestive tract stimulates the secretion of gastrin into which of the following structures?

A. Liver
B. Blood
C. Pancreas
D. Small Intestine

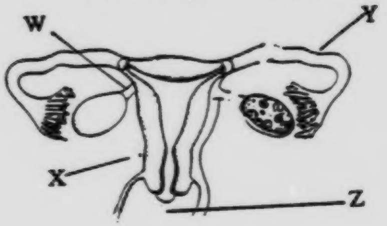
39. Consider four test tubes as follows:

Test tube 1 contains vegetable oil.
Test tube 2 contains protein
Test tube 3 contains glucose solution
Test tube 4 contains cornstarch

A small amount of gastric juice is added to each of the four test tubes. The test tubes are then incubated for four hours at room temperature. In which test tube will the digestive process be Most advanced?

A. 1
B. 2
C. 3
D. 4

The Female Reproductive System



40. In the above diagram, which label identifies the structure through which eggs pass from ovary to uterus?

A. W
B. X
C. Y
D. Z

41. Which of the following would be found in high levels in the glomerula filtrate of a healthy person?

A. Platelets
B. Protein
C. Red blood cells
D. Urea

42. Which of the following is usually associated with response to emergency situations?

A. Parasympathetic nervous system and acetylcholine.
B. Parasympathetic nervous system and noradrenalin.
C. Sympathetic nervous system and acetylcholine
D. Sympathetic nervous system and noradrenalin

43. What would you expect to happen if iodine is removed from the diet for a long period of time?

A. Decrease in the production of thyroxin
B. Decrease in the secretion of thyroid stimulating hormone
C. Increase in the metabolism of stored fats
D. Increase in metabolic rate and body temperature

44. During ovulation, what happens to the production of the hormones indicated?

A. Estrogen and progesterone are both low
B. Estrogen and progesterone are both high
C. FSH and estrogen stop
D. Progesterone and FSH are both high

45. Where in the digestive tract does the chemical digestion of protein begin?

A. Large intestine
B. Mouth
C. Small intestine
D. Stomach

46. The term homeostasis refers to the maintenance of a steady stage at which level?

A. Chemical control system
B. Nervous control system
C. Organism as a whole
D. Population as a whole

47. Which of the following would cause an initial decrease in the breathing rate?

A. Moving from high altitude to sea level
B. Breathing into a paper bag for two minutes
C. Reducing the concentration of hemoglobin in the blood
D. Exhaling air with a high concentration of carbon monoxide

48. Which statement is true for ferns but not for mosses?

A. Diploid spores are produced
B. Gametophyte is predominant
C. Sperms must swim to eggs
D. Sporophyte is predominant

49. At what point is fertilization said to be accomplished?

A. A mature egg meets a mature sperm
B. The egg nucleus and the sperm nucleus fuse
C. The fertilization membrane forms around the egg
D. The sperm enters the egg

50. Which term describes the process whereby a whole new plant may grow from a portion removed from another plant?

A. Budding
B. Fragmentation
C. Fission
D. Spore formation

51. What is the main reason for the success of flowering plants?

A. The sporophyte generation is predominant
B. Water is not required for sperm transfer
C. They have eliminated alternation of generations
D. The fruit protects the seed and aids in its dispersal

52. Which of these depends upon reproduction for its continual existence?

A. Generation
B. Individual
C. Population
D. Species

53. Which cell in the ovule is the only one to survive following meiosis?

A. Microspore
B. Micropyle
C. Megaspore
D. Megapyle

54. In humans, brown eye colour (B) is dominant to blue eye colour (b). The trait is controlled by a single pair of alleles. If the phenotypic ratio for the children of 2 brown-eyed parents is 3 brown-eyed children : 1 blue-eyed child, what it the expected genotypic ratio?

A. 3BB : 1bb
B. 3Bb : 1bb
C. 1BB : 2Bb : 1bb
D. 2BB : 1Bb : 1bb

55. With complete dominance, what is the expected phenotype ratio of the offspring from a cross between two organisms that are hybrid for a single trait?

A. 3 : 1
B. 2 : 2
C. 1 : 2 : 1
D. 9 : 3 : 3 : 1

56. Which hypothesis was developed by Walter Sutton?

A. Gene pairs are located on a chromosome.
B. Genes are located on chromosome pairs.
C. Homologous chromosomes pair up during gamete formation
D. Zygotes contain one homolog of each chromosome pair.

57. Tall pea plants are dominant to short pea plants. Which trait appears in the first filial generation when a pure tall parent and a pure short parent are crossed?

A. Dominant
B. Linked
C. Recessive
D. Segregated

58. Which syndrome results from the chromosome abnormality called Trisomy #21?

A. Allerdice's syndrome
B. Downs syndrome
C. Klinefelter's syndrome
D. Turner's syndrome

Three-letter codons of messenger RNA and the amino acids specified by the codons.

AAU AAC	Asparagine	CAU CAC	Histidine	GAU GAC	Aspartic acid	UAU UAC	Tyrosine
AAA AAG	Lysine	CAA CAG	Glutamine	GAA GAG	Glutamic acid	UAA UAG	Terminators*
ACU ACC ACA ACG	Threonine	CCU CCC CCA CCG	Proline	GCU GCC GCA GCG	Alanine	UCU UCC UCA UCG	Serine
AGU AGC	Serine	CGU CGC CGA CGG	Arginine	GGU GGC GGA GGG	Glycine	UGU UGC	Cysteine
AGA AGG	Arginine					UGA UGG	Terminator* Tryptophan
AUU AUC	Isoleucine	CUU CUC CUA CUG	Leucine	GUU GUC GUA GUG	Valine	UUU UUC	Phenylalanine
AUA AUG	Methionine					UUA UUG	Leucine

*Terminating codons signal the end of the formation of a polypeptide chain

59. Using the above table of mRNA codons, determine the tRNA anti-codons that would produce the following polypeptide chain:

tyrosine - alanine - valine - arginine

A. ATA CGG CAA TCT
B. AUA CGA CAA UCU
C. AUA CGT CTT AGA
D. UAU CGG CAA TCT

60. The venus' flytrap has modified leaves which can quickly close to trap insects as food for the plant. Which form of adaptation is illustrated by this characteristic?

A. Behavioural
B. Ecological
C. Morphological
D. Physiological

61. Why is knowledge of genetics important for the understanding of evolution?

A. Genetics accounts for overproduction.
B. Genetics explains how living organisms adapt for survival.
C. Genetics explains natural selection.
D. Genetics provides mechanisms which produce variations.

62. Atlantic salmon spend most of their lives in the ocean, but return to spawn to the rivers where they were hatched. Which form of isolation is illustrated by this example?

A. Geographic
B. Ecological
C. Behavioural
D. Reproductive

63. In which group of mammals does partial internal development occur?

A. Humans
B. Marsupials
C. Monotremes
D. Placentals

64. Variability among members of a domesticated species is more extensive than among members of a comparable wild species. What might account for this condition?

A. Domestic species live in a greater variety of habitats.
B. Domestication increases the rate of gene mutation.
C. Humans frequently protect mutants which would be eliminated in nature.
D. Wild species must be completely homozygous in order to show variations.

65. What was the major unforseen harmful effect of the pesticide DDT?

A. It caused the shells of bird eggs to become very thin and crack.
B. It caused liver disease in many carnivores.
C. It killed useful as well as harmful insects.
D. It polluted the water supply in many communities.

This is the end of PART I. Before going to PART II, please check that your name and Public Examination Number, and the FORM Number of the test are on your answer sheet as shown in the instructions.

PART II

PUBLIC EXAMINATION NUMBER

Answer ALL items in this section in the space provided. Each full item is worth 5 marks. Rough work or calculations may be done on the blank facing pages.

1. Using the examples of Darwin's and Lamarck's theories of the evolution of adaptations in organisms, explain how it is possible to distinguish between competing theories in science, such that the best theories are usually the ones to survive.

2. In humans, the gene for red-green colour blindness (C) is dominant to the gene for norman colour vision (c). The trait is sex-linked. Design an laboratory investigation, using coins, that would simulate a cross between a carrier female and a colour blind male.

3.

(a) Sometimes a series (over time) is used to show the various stages of development of an organism. Describe a procedure by which such a series could be prepared to show the germination and development of a bean plant.

(b) In the lab, you have just removed the testa from a bean seed. Describe how you would prepare this item to examine whether it is made up of cells.

4. Mendel knew nothing about genes or mitosis and meiosis. His reasoning about inheritance was based entirely on his observations and experiments. Show how the following aspects of good science were present in Mendel's Work: careful observation, interpretation, hypothesis formation, and experimentation.

5. What is the function of each of the following in the digestive system?

(a) Peristalsis

(b) Hydrochloric acid

(c) Large intestine

This is the end of the examination. Please answer the following question:

Do you think that this examination could
have been completed in TWO HOURS? ☐ yes ☐ no

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

CHEMISTRY 3202

JUNE 1989

PART I

Value: 30 marks Time: 45 minutes

Examination Number ________________

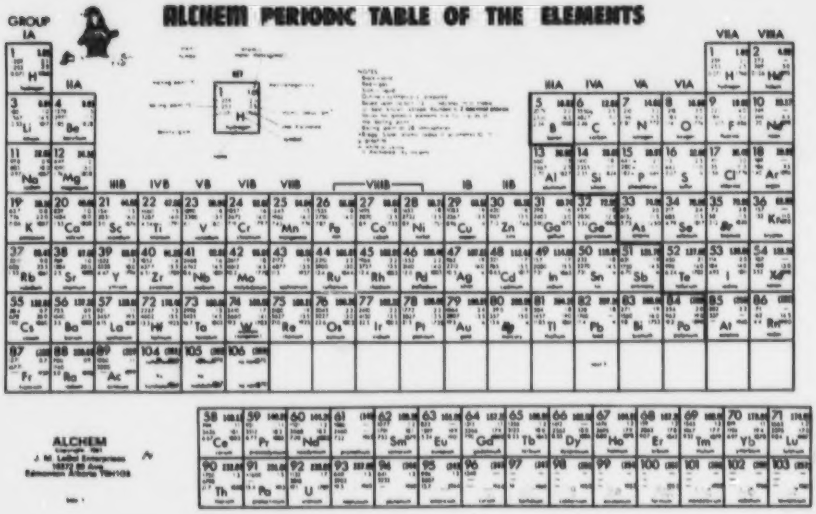
GENERAL INSTRUCTIONS

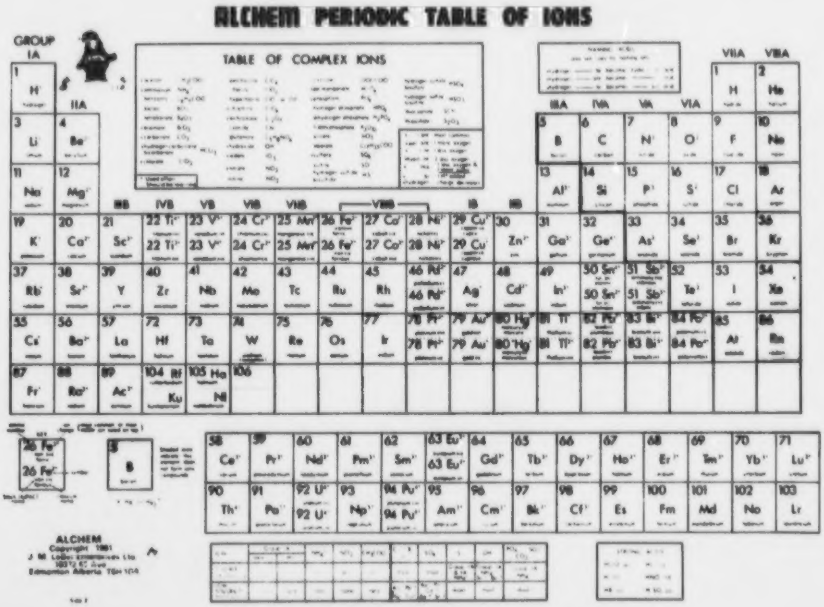
1. Part I consists of 30 multiple-choice objective items, and candidates are required to do ALL items.
2. Copies of the Periodic Table, a Table of Ions, and the ALCHEM Data Sheet are provided for your reference.
3. All answers are to be written in this paper.
4. Be sure to write your Examination Number in the space provided above.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the chief Supervisor prior to the first session, and have been posted for further reference near the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

- Materials required
- Materials not permitted
- Use of handheld calculator
- Use of pen or pencil
- Communication and movement during the examination
- Punctuality
- Leaving the room
- Use of answer booklets
- Completion of required information
- Use of unauthorized means, and penalties


ALCHEM PERIODIC TABLE OF THE ELEMENTS
GROUP IA
IIA
IIIB
IVB
VB
VIB
VIIB
VIIIB
IB
IIB
IIIA
IVA
VA
VIA
VIIA
VIIIA
ALCHEM


ALCHEM PERIODIC TABLE OF IONS
GROUP IA
TABLE OF COMPLEX IONS
IIA
IIIB
IVB
VB
VIB
VIIB
VIIIB
IB
IIB
IIIA
IVA
VA
VIA
VIIA
VIIIA
ALCHEM
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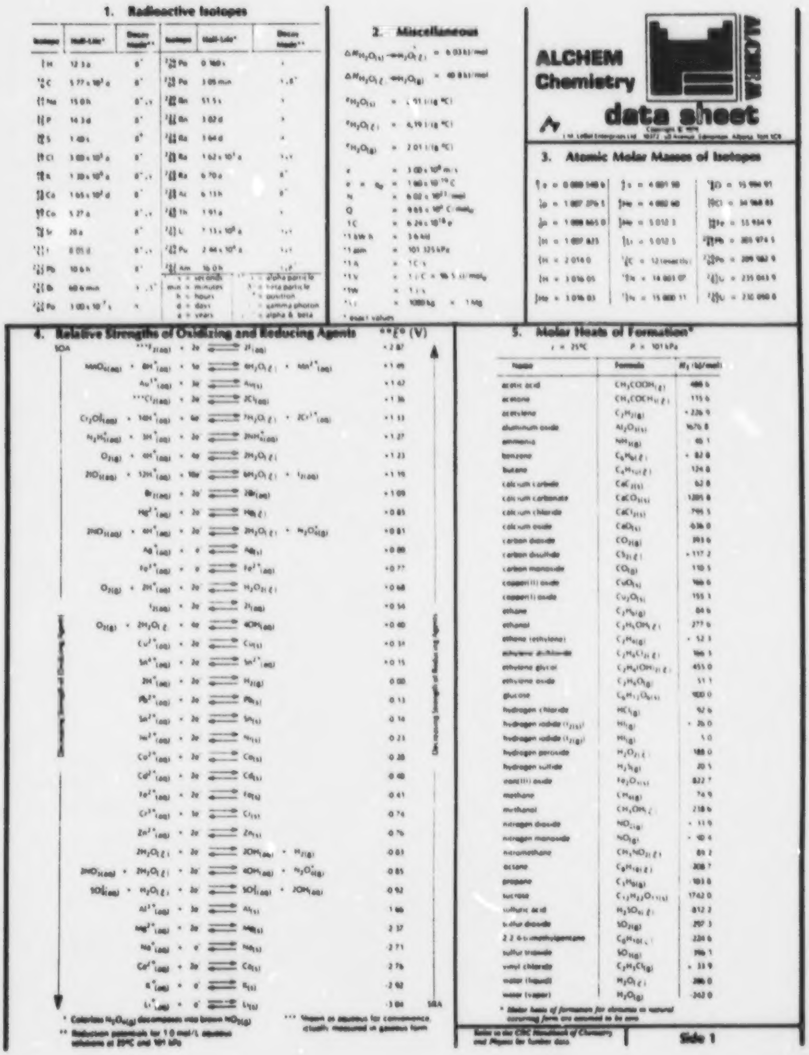

ALCHEM Chemistry data sheet

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1. Radioactive Isotopes

2. Miscellaneous

* exact values

3. Atomic Molar Masses of Isotopes

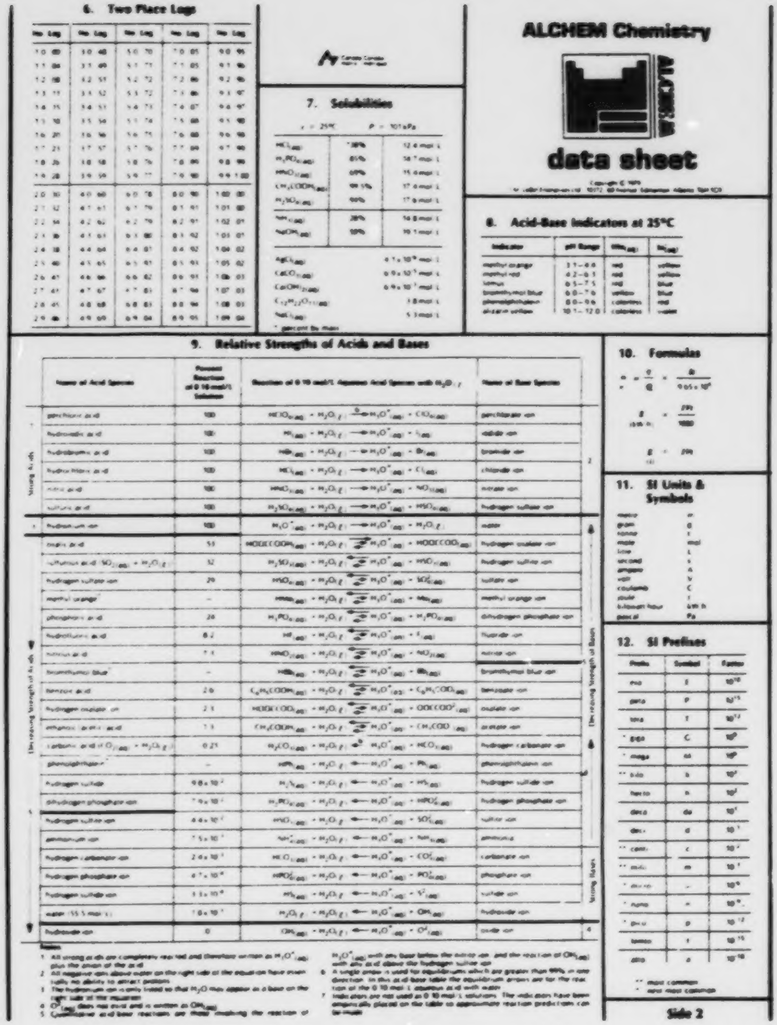
4. Relative Strengths of Oxidizing and Reducing Agents

5. Molar Heats of Formation*

$t = 25°C$ $P = 101$ kPa

* Molar heats of formation for elements in natural occurring form are assumed to be zero

Side 1



6. Two Place Logs

No.	Log	No.	Log	No.	Log	No.	Log	No.	Log
1.0	.00	3.0	.48	5.0	.70	7.0	.85	9.0	.95
1.1	.04	3.1	.49	5.1	.71	7.1	.85	9.1	.96
1.2	.08	3.2	.51	5.2	.72	7.2	.86	9.2	.96
1.3	.11	3.3	.52	5.3	.72	7.3	.86	9.3	.97
1.4	.15	3.4	.53	5.4	.73	7.4	.87	9.4	.97
1.5	.18	3.5	.54	5.5	.74	7.5	.88	9.5	.98
1.6	.20	3.6	.56	5.6	.75	7.6	.88	9.6	.98
1.7	.23	3.7	.57	5.7	.76	7.7	.89	9.7	.99
1.8	.26	3.8	.58	5.8	.76	7.8	.89	9.8	.99
1.9	.28	3.9	.59	5.9	.77	7.9	.90	9.9	1.00
2.0	.30	4.0	.60	6.0	.78	8.0	.90	1.00	.00
2.1	.32	4.1	.61	6.1	.79	8.1	.91	1.01	.00
2.2	.34	4.2	.62	6.2	.79	8.2	.91	1.02	.01
2.3	.36	4.3	.63	6.3	.80	8.3	.92	1.03	.01
2.4	.38	4.4	.64	6.4	.81	8.4	.92	1.04	.02
2.5	.40	4.5	.65	6.5	.81	8.5	.93	1.05	.02
2.6	.41	4.6	.66	6.6	.82	8.6	.93	1.06	.03
2.7	.43	4.7	.67	6.7	.83	8.7	.94	1.07	.03
2.8	.45	4.8	.68	6.8	.83	8.8	.94	1.08	.03
2.9	.46	4.9	.69	6.9	.84	8.9	.95	1.09	.04

7. Solubilities

$t = 25°C$ $P = 101\ kPa$

$HCl_{(aq)}$	*38%	12.4 mol/L
$H_3PO_{4(aq)}$	85%	14.7 mol/L
$HNO_{3(aq)}$	69%	15.4 mol/L
$CH_3COOH_{(aq)}$	99.5%	17.4 mol/L
$H_2SO_{4(aq)}$	96%	17.8 mol/L
$NH_{3(aq)}$	28%	14.8 mol/L
$NaOH_{(aq)}$	50%	19.1 mol/L
$AgCl_{(aq)}$		4.1 × 10^[illegible] mol/L
$CaCO_{3(aq)}$		6.9 × 10^[illegible] mol/L
$Ca(OH)_{2(aq)}$		6.9 × 10^[illegible] mol/L
$C_{12}H_{22}O_{11(aq)}$		3.8 mol/L
$NaCl_{(aq)}$		5.3 mol/L

* percent by mass

ALCHEM Chemistry

ALCHEM

data sheet

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[illegible] Edmonton, Alberta [illegible]

8. Acid-Base Indicators at 25°C

Indicator	pH Range	$HIn_{(aq)}$	$In^-_{(aq)}$
methyl orange	3.1 – 4.4	red	yellow
methyl red	4.2 – 6.3	red	yellow
litmus	6.5 – 7.5	red	blue
bromothymol blue	6.0 – 7.6	yellow	blue
phenolphthalein	8.0 – 9.6	colorless	red
alizarin yellow	10.1 – 12.0	colorless	violet

9. Relative Strengths of Acids and Bases

	Name of Acid Species	Percent Reaction of 0.10 mol/L Solution	Reaction of 0.10 mol/L Aqueous Acid Species with $H_2O_{(\ell)}$	Name of Base Species	
Strong Acids 1	perchloric acid	100	$HClO_{4(aq)} + H_2O_{(\ell)} \xrightarrow{6} H_3O^+_{(aq)} + ClO^-_{4(aq)}$	perchlorate ion	2
	hydroiodic acid	100	$HI_{(aq)} + H_2O_{(\ell)} \rightarrow H_3O^+_{(aq)} + I^-_{(aq)}$	iodide ion	
	hydrobromic acid	100	$HBr_{(aq)} + H_2O_{(\ell)} \rightarrow H_3O^+_{(aq)} + Br^-_{(aq)}$	bromide ion	
	hydrochloric acid	100	$HCl_{(aq)} + H_2O_{(\ell)} \rightarrow H_3O^+_{(aq)} + Cl^-_{(aq)}$	chloride ion	
	nitric acid	100	$HNO_{3(aq)} + H_2O_{(\ell)} \rightarrow H_3O^+_{(aq)} + NO^-_{3(aq)}$	nitrate ion	
	sulfuric acid	100	$H_2SO_{4(aq)} + H_2O_{(\ell)} \rightarrow H_3O^+_{(aq)} + HSO^-_{4(aq)}$	hydrogen sulfate ion	
3	hydronium ion	100	$H_3O^+_{(aq)} + H_2O_{(\ell)} \rightarrow H_3O^+_{(aq)} + H_2O_{(\ell)}$	water	Decreasing Strength of Bases
Decreasing Strength of Acids	oxalic acid	53	$HOOCCOOH_{(aq)} + H_2O_{(\ell)} \rightleftharpoons H_3O^+_{(aq)} + HOOCCOO^-_{(aq)}$	hydrogen oxalate ion	
	sulfurous acid $(SO_{2(aq)} + H_2O_{(\ell)})$	32	$H_2SO_{3(aq)} + H_2O_{(\ell)} \rightleftharpoons H_3O^+_{(aq)} + HSO^-_{3(aq)}$	hydrogen sulfite ion	
	hydrogen sulfate ion	29	$HSO^-_{4(aq)} + H_2O_{(\ell)} \rightleftharpoons H_3O^+_{(aq)} + SO^{2-}_{4(aq)}$	sulfate ion	
	methyl orange[7]	—	$HMo_{(aq)} + H_2O_{(\ell)} \rightleftharpoons H_3O^+_{(aq)} + Mo^-_{(aq)}$	methyl orange ion	
	phosphoric acid	24	$H_3PO_{4(aq)} + H_2O_{(\ell)} \rightleftharpoons H_3O^+_{(aq)} + H_2PO^-_{4(aq)}$	dihydrogen phosphate ion	
	hydrofluoric acid	8.2	$HF_{(aq)} + H_2O_{(\ell)} \rightleftharpoons H_3O^+_{(aq)} + F^-_{(aq)}$	fluoride ion	
	nitrous acid	7.1	$HNO_{2(aq)} + H_2O_{(\ell)} \rightleftharpoons H_3O^+_{(aq)} + NO^-_{2(aq)}$	nitrite ion	5
	bromothymol blue[7]	—	$HBb_{(aq)} + H_2O_{(\ell)} \rightleftharpoons H_3O^+_{(aq)} + Bb^-_{(aq)}$	bromothymol blue ion	
	benzoic acid	2.6	$C_6H_5COOH_{(aq)} + H_2O_{(\ell)} \rightleftharpoons H_3O^+_{(aq)} + C_6H_5COO^-_{(aq)}$	benzoate ion	
	hydrogen oxalate ion	2.1	$HOOCCOO^-_{(aq)} + H_2O_{(\ell)} \rightleftharpoons H_3O^+_{(aq)} + OOCCOO^{2-}_{(aq)}$	oxalate ion	
	ethanoic (acetic) acid	1.3	$CH_3COOH_{(aq)} + H_2O_{(\ell)} \rightleftharpoons H_3O^+_{(aq)} + CH_3COO^-_{(aq)}$	acetate ion	
	carbonic acid $(CO_{2(aq)} + H_2O_{(\ell)})$	0.21	$H_2CO_{3(aq)} + H_2O_{(\ell)} \overset{6}{\rightleftharpoons} H_3O^+_{(aq)} + HCO^-_{3(aq)}$	hydrogen carbonate ion	
	phenolphthalein[7]	—	$HPh_{(aq)} + H_2O_{(\ell)} \leftarrow H_3O^+_{(aq)} + Ph^-_{(aq)}$	phenolphthalein ion	
	hydrogen sulfide	9.8 × 10^-2	$H_2S_{(aq)} + H_2O_{(\ell)} \leftarrow H_3O^+_{(aq)} + HS^-_{(aq)}$	hydrogen sulfide ion	
	dihydrogen phosphate ion	7.9 × 10^-2	$H_2PO^-_{4(aq)} + H_2O_{(\ell)} \leftarrow H_3O^+_{(aq)} + HPO^{2-}_{4(aq)}$	hydrogen phosphate ion	
5	hydrogen sulfite ion	4.4 × 10^-2	$HSO^-_{3(aq)} + H_2O_{(\ell)} \leftarrow H_3O^+_{(aq)} + SO^{2-}_{3(aq)}$	sulfite ion	
	ammonium ion	7.5 × 10^-3	$NH^+_{4(aq)} + H_2O_{(\ell)} \leftarrow H_3O^+_{(aq)} + NH_{3(aq)}$	ammonia	
	hydrogen carbonate ion	2.4 × 10^-3	$HCO^-_{3(aq)} + H_2O_{(\ell)} \leftarrow H_3O^+_{(aq)} + CO^{2-}_{3(aq)}$	carbonate ion	Strong Bases
	hydrogen phosphate ion	6.7 × 10^-4	$HPO^{2-}_{4(aq)} + H_2O_{(\ell)} \leftarrow H_3O^+_{(aq)} + PO^{3-}_{4(aq)}$	phosphate ion	
	hydrogen sulfide ion	3.3 × 10^-4	$HS^-_{(aq)} + H_2O_{(\ell)} \leftarrow H_3O^+_{(aq)} + S^{2-}_{(aq)}$	sulfide ion	
	water (55.5 mol/L)	1.8 × 10^-7	$H_2O_{(\ell)} + H_2O_{(\ell)} \leftarrow H_3O^+_{(aq)} + OH^-_{(aq)}$	hydroxide ion	
	hydroxide ion	0	$OH^-_{(aq)} + H_2O_{(\ell)} \leftarrow H_3O^+_{(aq)} + O^{2-}_{(aq)}$	oxide ion	4

Notes

1. All strong acids are completely reacted and therefore written as $H_3O^+_{(aq)}$ plus the anion of the acid.
2. All negative ions above water on the right side of the equation have essentially no ability to attract protons.
3. The hydronium ion is only listed so that H_2O may appear as a base on the right side of the equation.
4. $O^{2-}_{(aq)}$ does not exist and is written as $OH^-_{(aq)}$.
5. Quantitative acid-base reactions are those involving the reaction of $H_3O^+_{(aq)}$ with any base below the nitrite ion, and the reaction of $OH^-_{(aq)}$ with any acid above the hydrogen sulfite ion.
6. A single arrow is used for equilibriums which are greater than 99% in one direction. In this acid-base table the equilibrium arrows are for the reaction of the 0.10 mol/L aqueous acid with water.
7. Indicators are not used as 0.10 mol/L solutions. The indicators have been empirically placed on the table so approximate reaction predictions can be made.

10. Formulas

$$n_e = \frac{q}{Q} = \frac{It}{9.65 \times 10^4}$$

$$E_{(kW\cdot h)} = \frac{Pt}{1000}$$

$$E_{(J)} = Pt$$

11. SI Units & Symbols

metre	m
gram	g
tonne	t
mole	mol
litre	L
second	s
ampere	A
volt	V
coulomb	C
joule	J
kilowatt hour	kW·h
pascal	Pa

12. SI Prefixes

Prefix	Symbol	Factor
exa	E	10^{18}
peta	P	10^{15}
tera	T	10^{12}
* giga	G	10^{9}
* mega	M	10^{6}
** kilo	k	10^{3}
hecto	h	10^{2}
deca	da	10^{1}
deci	d	10^{-1}
** centi	c	10^{-2}
** milli	m	10^{-3}
* micro	μ	10^{-6}
* nano	n	10^{-9}
* pico	p	10^{-12}
femto	f	10^{-15}
atto	a	10^{-18}

** most common
* next most common

Side 2

Do ALL items by writing the letter of the correct response for each in the blank at the right.

1. **Which class of compounds has high melting points, conducts electricity in the molten state and tends to be soluble in water?** ....(1) ________
   (A) hydrogen
   (B) metallic
   (C) covalent
   (D) ionic

2. **Under which condition does the solubility of a gas in a liquid decrease?** ....(2) ________
   (A) increase in pressure
   (B) increase in temperature
   (C) increase in the volume of liquid
   (D) decrease in temperature

3. **What is the molarity of CH_3COO^- in 250 mL of a 0.120 mol/L solution of $Ca(CH_3COO)_2$?** ....(3) ________
   (A) 0.0186 mol/L
   (B) 0.120 mol/L
   (C) 0.240 mol/L
   (D) 1.20×10^{-3} mol/L

4. **Ammonia can be considered as a Lewis base because it can donate which one of the following?** ....(4) ________
   (A) electrons
   (B) protons
   (C) hydronium ions
   (D) hydroxide ions

5. **What name is given to the slowest step in a chemical reaction?** ....(5) ________
   (A) activated complex
   (B) equilibrium
   (C) rate determining
   (D) activation energy

6. **Select the TRUE statement about endothermic reactions:** ....(6) ________
   (A) They release energy.
   (B) ΔH values are negative.
   (C) The heat component appears on the right-hand side of the equation and is positive.
   (D) The energy required to break the reactant bonds is greater than the energy released when the product bonds form.

7. **In the titration of 250. mL of 2.00 mol/L HCl, which of the following bases would require the least volume?** ....(7) ________
   (A) 1.50 mol/L $Ca(OH)_2$
   (B) 0.500 mol/L $Al(OH)_3$
   (C) 2.00 mol/L NaOH
   (D) 1.00 mol/L $Mg(OH)_2$

8. **What is the conjugate base in the following reaction?** ....(8) ________

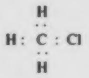
$$HCl_{(aq)} + H_2O_{(l)} \rightleftharpoons H_3O^+_{(aq)} + Cl^-_{(aq)}$$

   (A) $HCl_{(aq)}$
   (B) $H_2O_{(l)}$
   (C) $H_3O^+_{(aq)}$
   (D) $Cl^-_{(aq)}$

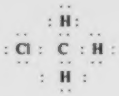
9. **Which one of the following molecules has two bonding pairs and two unshared pairs of electrons?** ....(9) ________
   (A) CH_4
   (B) H_2O
   (C) NH_3
   (D) HF

10. What is the correct electron-dot diagram for CH_3Cl? ....(10) __________

(A)



(C)



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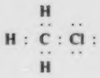
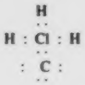


(D)



11. What volume of 0.125 mol/L solution can be made from 10.0 g of $CuSO_4 . 5H_2O$? ....(11) __________
(A) 0.320 L
(B) 1.98 L
(C) 7.90×10^{-3} L
(D) 80.0 L

12. When a solution of $AgNO_3$ is diluted, which one of the following statements is **TRUE**? ....(12) __________
(A) The mass of solute decreases.
(B) The number of moles of solute decreases.
(C) The concentration of the solution decreases.
(D) The volume of the solvent decreases.

13. Why is a match (or other source of flame) needed to light a candle? ....(13) __________
(A) to reduce the threshold energy
(B) to provide the heat of reaction
(C) to provide the activation energy
(D) to catalyze the reaction

14. Which compound has a type of bonding that is characterized by the simultaneous attraction of an ion by its surrounding ions within a crystal lattice? ....(14) __________

(A) $CaCl_2$

(B) CCl_4

(C) SiC

(D) $SiCl_4$

15. Which one of the following compounds has a molecular dipole? ....(15) __________

(A) F_2

(B) CS_2

(C) H_2S

(D) C_3H_8

16. Which one of the following substances is an example of an electrolyte? ....(16) __________

(A) $CH_3OH_{(aq)}$

(B) $C_{12}H_{22}O_{11\ (aq)}$

(C) $Cl_{2\ (aq)}$

(D) $MgSO_4 . 7H_2O_{(aq)}$

17. What name is given to a solution in which the solute is in equilibrium with undissolved solute at a specified temperature? ....(17) __________
(A) unsaturated
(B) saturated
(C) super-saturated
(D) colloid

18. Which one of the following gives the Bronsted-Lowry definition of a base? ....(18) __________
(A) proton acceptor
(B) proton donor
(C) electron-pair acceptor
(D) electron-pair donor

19. Which one of the following may **NOT** act as **BOTH** an acid and a base? ....(19) __________

(A) $HPO_4^{2-}{}_{(aq)}$

(B) $NH_4^+{}_{(aq)}$

(C) $HSO_3^-{}_{(aq)}$

(D) $HCO_3^-{}_{(aq)}$

20. Which one of the changes below will have **NO** effect on the position of the following equilibrium? ....(20) __________

$$4NH_{3\,(g)} + 5H_2O_{(g)} \rightleftharpoons 4NO_{(g)} + 6H_2O_{(g)} + \text{heat}$$

(A) Remove $NO_{(g)}$.

(B) Reduce pressure.

(C) Raise the temperature.

(D) Add MnO_2 (a catalyst).

21. A student was asked to prepare 250 mL of a 0.250 mol/L $AgNO_{3\,(aq)}$ solution. What equipment, from the following list, is required? ....(21) __________

(1) 250-mL beaker
(2) 250-mL volumetric flask
(3) scoopula
(4) 10-mL pipet
(5) funnel
(6) centigram balance
(7) 50-mL graduated cylinder
(8) meniscus finder

(A) 1, 2, 3, 5, 6
(B) 1, 2, 3, 5, 6, 8
(C) 1, 2, 4, 6, 7
(D) 2, 3, 4, 6

22. Which one of the following isoelectronic molecules is likely to have the lowest boiling point? ....(22) __________

(A) CH_4

(B) NH_3

(C) H_2O

(D) HF

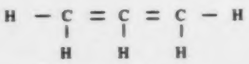
23. Which one of the following structural diagrams is **INCORRECT**? ....(23) __________

(A) $H - C \equiv N$

(B) $O = C = O$

(C) $H - C \equiv C - H$

(D)



$$H - \underset{\displaystyle H}{\underset{|}{C}} = \underset{\displaystyle H}{\underset{|}{C}} = \underset{\displaystyle H}{\underset{|}{C}} - H$$

24. A solution used to remove grease from a concrete floor has an $[\,OH^-\,] = 1.0 \times 10^{-9}$. What is the pH level of this solution? ....(24) __________
(A) 4.0
(B) 5.0
(C) 5.5
(D) 8.5

25. Which one of the following represents the correct dissociation equation for dissolving Na_2SO_4 in water? ......(25) __________

(A) $Na_2SO_{4\,(s)} \longrightarrow Na_2^{+}{}_{(aq)} + SO_4^{-}{}_{(aq)}$

(B) $Na_2SO_{4\,(s)} \longrightarrow Na^{2+}{}_{(aq)} + SO_4^{2-}{}_{(aq)}$

(C) $Na_2SO_{4\,(s)} \longrightarrow 2Na^{+}{}_{(aq)} + SO_4^{2-}{}_{(aq)}$

(D) $Na_2SO_{4\,(s)} \longrightarrow 2Na^{+}{}_{(aq)} + S^{2-}{}_{(aq)} + 4O^{2-}{}_{(aq)}$

26. Which one of the following will a solution of pH = 4 cause? ....(26) __________
(A) phenolphthalein to turn red
(B) methyl orange to turn red
(C) red litmus to turn blue
(D) methyl red to turn yellow

27. Consider the following equilibrium:

RED YELLOW

$$HMo_{(aq)} + CH_3COO^{-}{}_{(aq)} \rightleftharpoons Mo^{-}{}_{(aq)} + CH_3COOH_{(aq)}$$

Which one of the following would provide more of the yellow form of the indicator? ....(27) __________

(A) Add more $CH_3COOH_{(aq)}$ to the equilibrium.

(B) Add a strong acid to the system.

(C) Add more $NaCH_3COO_{(s)}$ to the system.

(D) Remove some $CH_3COO^{-}{}_{(aq)}$ by precipitation.

28. Which intermolecular force contributes most to the high boiling point (391 K) of $C_4H_9OH_{(l)}$? ....(28) __________
(A) hydrogen bonding
(B) network covalent bonding
(C) dipole-dipole forces
(D) London dispersion forces

29. When you add some solid ammonium chloride, $NH_4Cl_{(s)}$, to water, the solution feels colder than the water before the solute was added. Which statement best describes this observation? ....(29) __________

(A) Heat is released from the system, so it feels cold.

(B) The reaction is exothermic.

(C) $NH_4Cl_{(s)} + H_2O_{(l)} \longrightarrow NH_4Cl_{(aq)} + \text{heat}$

(D) $NH_4Cl_{(s)} + H_2O_{(l)} + \text{heat} \longrightarrow NH_4Cl_{(aq)}$

30. An increase in temperature increases the rate of reaction for all but one of the following reasons. Identify the **EXCEPTION**. ....(30) __________
(A) There are more high energy particles.
(B) The activation energy level is lowered.
(C) There are more collisions per second.
(D) More of the collisions are successful.

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

CHEMISTRY 3202

JUNE 1989

PART II

Value: 70 marks

Time: 2 hours, 15 minutes

GENERAL INSTRUCTIONS

1. Part II consists of essay items only, arranged in three sections with requirements as follows:

   SECTION A — Do ONE item — 10%
   SECTION B — Do FOUR items — 48%
   SECTION C — Do ONE item — 12%

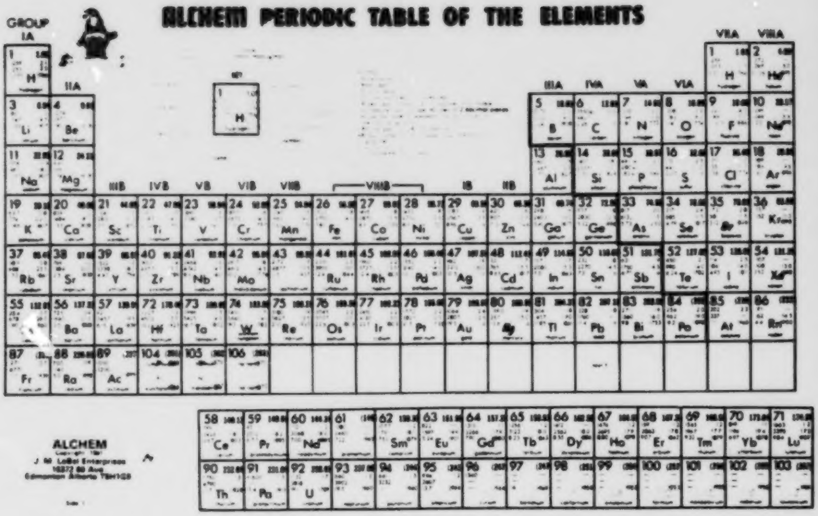
2. Copies of the Periodic Table, a Table of Ions, and the ALCHEM Data Sheet are provided for your reference, and one sheet of graph paper is provided for use in item #1.

3. All answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the chief Supervisor prior to the first session, and have been posted for further reference near the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

— Materials required
— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties


ALCHEM PERIODIC TABLE OF THE ELEMENTS
GROUP IA
IIA
IIIB
IVB
VB
VIB
VIIB
VIIIB
IB
IIB
IIIA
IVA
VA
VIA
VIIA
VIIIA

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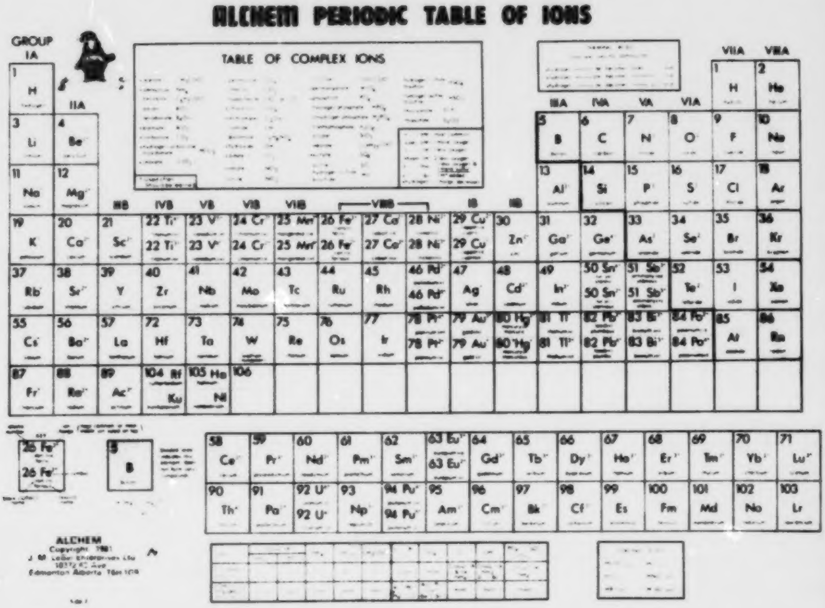
ALCHEM PERIODIC TABLE OF IONS
GROUP IA
TABLE OF COMPLEX IONS
IIA
IIIB
IVB
VB
VIB
VIIB
VIIIB
IB
IIB
IIIA
IVA
VA
VIA
VIIA
VIIIA

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Value

SECTION A

Investigative Skills

Do the **ONE** complete item from this section. Total value: 10%.

1. A student performed an experiment to determine the effect of temperature on rate of reaction between $KIO_{3(aq)}$ and $Na_2S_2O_{5(aq)}$. The time required for the reaction to occur at a given temperature was recorded when a colour change takes place. The following data were obtained:

Reaction Time (seconds)	**Temperature** (°C)
27	4.0
20	8.0
17	12.0
15	16.0
8	24.0
6	30.0

3 (a) Draw a properly labelled graph of the results.

2 (b) What generalization can be inferred from this experiment?

2 (c) List any **two** variables that must be controlled in this experiment.

2 (d) Identify the dependent and independent variables in this experiment.

1 (e) State whether the graph shows a direct or an inverse relationship.

SECTION B

Do any **FOUR** complete items in this section. Total value: 48%.

3 2. (a) Draw the Lewis diagrams for **three** of the following:

(i) CS_2

(ii) NH_4^+

(iii) N_2

(iv) CH_3Cl

(b) If 6.94 g of sodium sulfide is dissolved in water and added to 350 mL of silver nitrate solution, a precipitate is formed.

2 (i) Write the net ionic equation for the reaction.

4 (ii) Calculate the concentration of silver nitrate solution required for this reaction.

(c) A solution of barium hydroxide has a concentration of 0.0050 mol/L.

2 (i) Calculate the $[H_3O^+{}_{(aq)}]$ in this solution.

1 (ii) Find the pH of the solution.

3 3. (a) For each of the following molecules, write the structural formula and draw arrows to represent bond dipoles:

(i) H_2CO

(ii) CO

(iii) H_2O

Value

5 **(b)** The heat released when 80.0 g of methane gas is burned is sufficient to raise the temperature of 70.0 mL of water from 32.0 degrees Celsius to 47.0 degrees Celsius. Calculate the molar heat of combustion of methane.

2 **(c)** (i) Using nitric acid and hydrocyanic acid as illustrations, explain the difference between weak and strong acids.

2 (ii) Describe a test you could perform to distinguish between a weak acidic solution and a strong acidic solution.

4. **(a)** $HSO_3^-{}_{(aq)}$ can act as both a Bronsted-Lowry acid and a Bronsted-Lowry base.

2 (i) Write one equation for each of the following:

(1) $HSO_3^-{}_{(aq)}$ acting as an acid and reacting with H_2O.

(2) $HSO_3^-{}_{(aq)}$ acting as a base and reacting with H_3O^+.

2 (ii) Identify the acid-base pairs in the above equations.

4 **(b)** Methanol (methyl alcohol) can be manufactured using the following equilibrium reaction:

$$CO_{(g)} + 2H_{2\,(g)} \rightleftharpoons CH_3OH_{(g)} + \text{energy}$$

Predict the effect of the following changes on the equilibrium concentration of $CH_3OH_{(g)}$:

(i) a decrease in temperature

(ii) an increase in pressure

(iii) addition of $H_{2\,(g)}$

(iv) addition of a catalyst

4 **(c)** What conditions are necessary for the formation of each of the following:

(i) an ionic bond

(ii) a covalent bond

5. **(a)** Consider the following reaction:

$$2SO_{2\,(g)} + O_{2\,(g)} \longrightarrow 2SO_{3\,(g)}$$

How will the rate of this reaction be affected by each of the following. Explain your answer.

2 (i) addition of a catalyst

2 (ii) an increase in temperature

4 **(b)** Find the concentration of nitrate ions in an aluminum nitrate solution prepared by dissolving 82.1 g of solute in water to form 250.0 mL of solution.

4 **(c)** Explain why iodine crystals are relatively insoluble in water, yet they readily dissolve in carbon tetrachloride.

4 6. **(a)** Use diagrams to explain any **two** of the following:

(i) hydrogen-bonding

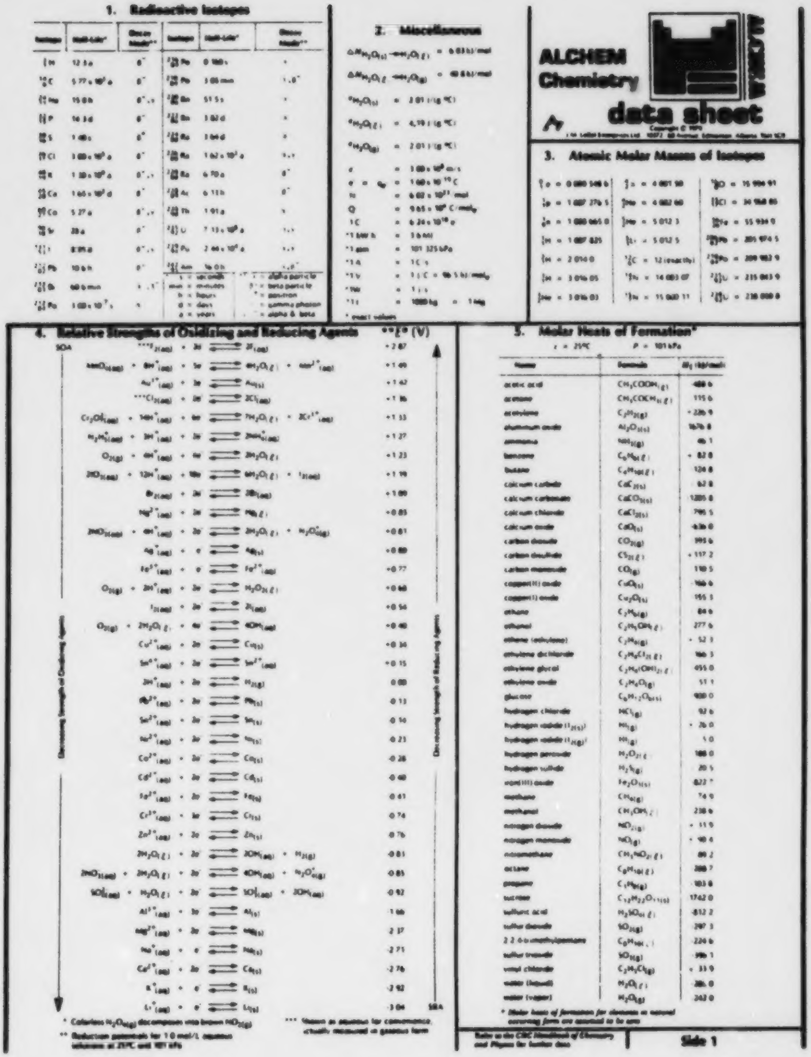
(ii) dipole-dipole forces

(iii) London dispersion forces

(b) In a certain titration, a total of 25.0 mL of sodium hydroxide solution was neutralized by 16.36 mL of sulfuric acid (0.1286 mol L $^{-1}$).

4 (i) Determine the concentration of the sodium hydroxide solution.

1 (ii) Write the net-ionic equation for the reaction which occurs.



1. Radioactive Isotopes

2. Miscellaneous

ALCHEM Chemistry data sheet

3. Atomic Molar Masses of Isotopes

4. Relative Strengths of Oxidizing and Reducing Agents

SOA

Decreasing Strength of Oxidizing Agents

Decreasing Strength of Reducing Agents

SRA

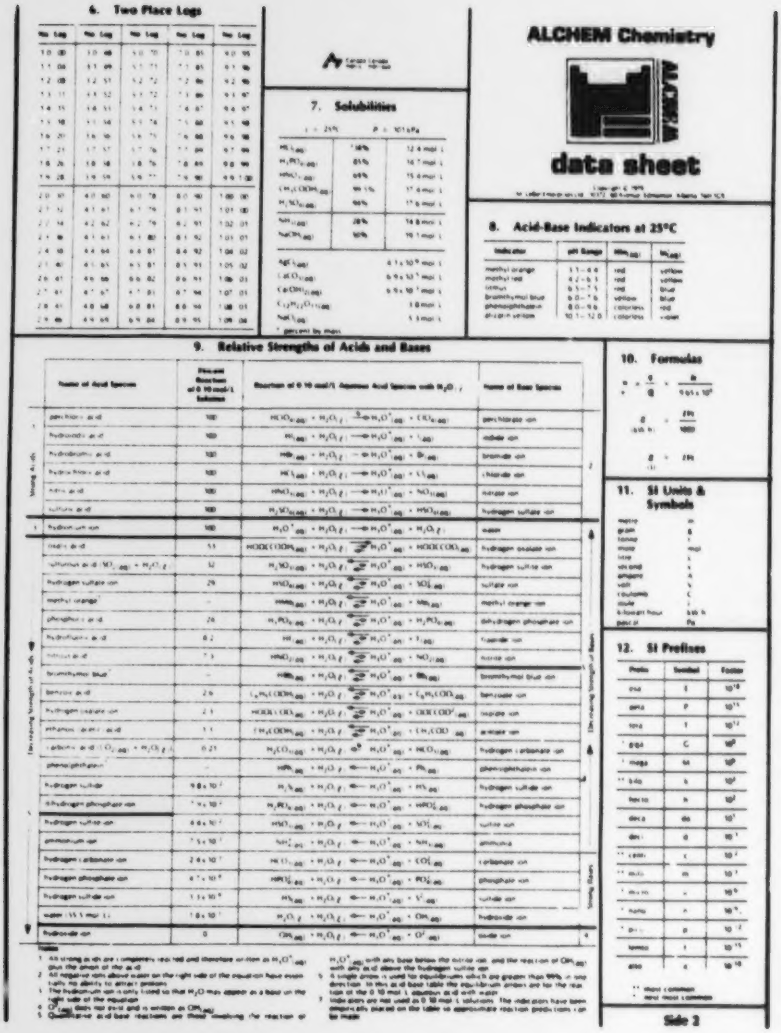
5. Molar Heats of Formation*

t = 25°C P = 101 kPa

* Molar heats of formation for elements in natural occurring form are assumed to be zero

Refer to the CRC Handbook of Chemistry and Physics for further data

Side 1



6. Two Place Logs

7. Solubilities

* percent by mass

ALCHEM Chemistry

data sheet

8. Acid-Base Indicators at 25°C

Indicator	pH Range	$HIn_{(aq)}$	$In^-_{(aq)}$
methyl orange	3.1 – 4.4	red	yellow
methyl red	4.2 – 6.3	red	yellow
litmus	6.5 – 7.5	red	blue
bromthymol blue	6.0 – 7.6	yellow	blue
phenolphthalein	8.0 – 9.6	colorless	red
alizarin yellow	10.1 – 12.0	colorless	violet

9. Relative Strengths of Acids and Bases

10. Formulas

11. SI Units & Symbols

metre	m
gram	g
tonne	t
mole	mol
litre	L
second	s
ampere	A
volt	V
coulomb	C
joule	J
kilowatt hour	kW·h
pascal	Pa

12. SI Prefixes

Prefix	Symbol	Factor
exa	E	10^{18}
peta	P	10^{15}
tera	T	10^{12}
* giga	G	10^{9}
* mega	M	10^{6}
** kilo	k	10^{3}
hecto	h	10^{2}
deca	da	10^{1}
deci	d	10^{-1}
** centi	c	10^{-2}
** milli	m	10^{-3}
* micro	µ	10^{-6}
* nano	n	10^{-9}
* pico	p	10^{-12}
femto	f	10^{-15}
atto	a	10^{-18}

** most common
* next most common

Side 2

Value

3 (c) Calculate the molar solubility at 25°C of lead (II) nitrate if 58.0 g of lead (II) nitrate is required to make 25 mL of solution at 25°C.

4 7. (a) Define any **four** of the following:

(i) ionization

(ii) suspension

(iii) electrolyte

(iv) dissociation

(v) precipitation

2 (b) (i) Distinguish between intermolecular and intramolecular bonding.

2 (ii) List all the intermolecular and intramolecular bonding forces present in hydrogen fluoride.

(c) Explain in the following ways why NH_3 is considered a base:

2 (i) by the Lewis definition,

2 (ii) by the Arrhenius definition.

SECTION C

Do any **ONE** complete item from this section. Total value: 12%.

8. ORGANIC CHEMISTRY

4 (a) Draw structural formulae for any **four** of the following:

(i) 1, 3-cyclohexadiene

(ii) 2, 3-dimethyl-2-butene

(iii) 3-methylhexane

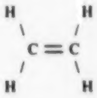
(iv) 4-ethyl-2-hexyne

(v) 1, 4-dimethylbenzene

4 (b) Using structural formulae for all organic substances, write balanced equations for any **two** of the following, and name all organic compounds present.

(i) oxidation of $C_3H_8\ (g)$

(ii)



$+ Cl_2$

(iii) formation of an ester from 1-propanol and propanoic acid

4 (c) Explain the difference in each of the following:

(i) saturated and unsaturated organic compounds

(ii) aromatic and aliphatic hydrocarbons

Value

9. ELECTROCHEMISTRY

4 (a) Consider the following net ionic equation:

$$Zn + 2Ag^+ \longrightarrow Zn^{2+} + 2Ag$$

(i) Which substance is oxidized?

(ii) Which substance is reduced?

(iii) Which substance acts as the reducing agent?

(iv) Which substance acts as the oxidizing agent?

4 (b) Predict the most likely redox reaction to occur when aqueous solutions of potassium dichromate and hydrochloric acid are mixed together in a beaker. Balance the equation and determine whether or not the reaction is spontaneous.

2 (c) (i) Write the anode and cathode half reactions that occur when an aqueous solution of copper (II) nitrate is electrolyzed.

2 (ii) Calculate the minimum voltage that would be required to cause the electrolysis.

3 ## 10. NUCLEAR CHEMISTRY

(a) Copy and complete the following equations:

(i) $${}^{61}_{30}Zn \longrightarrow \underline{\quad ? \quad} + {}^{0}_{1}e$$

(ii) $${}^{9}_{3}Li \longrightarrow \underline{\quad ? \quad} + {}^{9}_{4}Be$$

(iii) $${}^{257}_{102}No \longrightarrow {}^{4}_{2}He + \underline{\quad ? \quad}$$

3 (b) The half life of ${}^{212}_{82}Pb$ is 10.6 h. How much of a 40.0-g sample will remain after 31.8 h?

6 (c) Give **two** applications of nuclear reactors in each of the following areas:

(i) agriculture

(ii) medicine

(iii) industry

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

GEOLOGY 3203

JUNE 1989

PART I

Value: 30 marks

Time: 30 minutes

Examination Number ____________________

GENERAL INSTRUCTIONS

1. Part I consists of objective items only arranged in two sections as follows, and candidates are required to do **all** items:

   SECTION A — 10 completion items — 10%
   SECTION B — 20 multiple-choice items — 20%

2. Answers are to be written on this paper.

3. Be sure to write your Examination Number in the space provided above.

REGULATIONS FOR CANDIDATES

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— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

SECTION A

Do all items in this section by writing the correct response for each in the blank at the right: Total value 10%

1. **Which mineral group has a basic structural unit of one sulfur atom surrounded by four oxygen atoms?..........(1) ____________**

2. **What is the name given to the most common microscopic organic remains in marine sediments?..........(2) ____________**

3. **What term is used for a sea wave caused by some form of underwater tectonic activity..........(3) ____________**

4. **What is a buried erosion surface called?..........(4) ____________**

5. **What term means atoms of an element that differ only in mass?..........(5) ____________**

6. **The supercontinent "Pangaea" proposed by Wegener split into two parts. What was the name given to the northern portion?..........(6) ____________**

7. **In which geologic period did the first mammals on earth appear?..........(7) ____________**

8. **What term is used for a dark glassy rock which has a granitic composition?..........(8) ____________**

9. **What term is used to describe the size and arrangement of mineral grains in a rock?.....(9) ____________**

10. **To which mineral group does gypsum belong?..........(10) ____________**

SECTION B

Do **ALL** items in this section by writing the letter of the correct response for each in the blank at the right. Total Value: 20%

11. Which of the following is closest to the average specific gravity of the earth's crust?..........(11) ________
    (A) .01
    (B) 1.0
    (C) 2.7
    (D) 27

12. Which of the following would be used to show the main difference among igneous, sedimentary and metamorphic rocks?..........(12) ________
    (A) conditions under which they are formed
    (B) conditions under which they are found
    (C) minerals of which they are made
    (D) elements of which they are made

13. Which of the following would most likely be characteristic of a non-sedimentary rock?..........(13) ________
    (A) contains mineral fragments found on the ocean floor
    (B) shows evidence of stream deposition
    (C) composed of layers of gravel cemented together
    (D) consists of large intergrown crystals

14. Which of the following would have the least effect on the amount of weathering of a rock?..........(14) ________
    (A) mineral composition
    (B) porosity and permeability of the rock
    (C) amount of wind in the area
    (D) amount of precipitation in the area

15. Which of the following would **NOT** be considered among the external processes that shape the land surface...(15) ________
    (A) erosion
    (B) weathering
    (C) metamorphism
    (D) soil creep

16. What is the main reason sea level has changed over a long period of time by as much as 150 metres?..........(16) ________
    (A) glaciation
    (B) the number of rivers
    (C) rainfall
    (D) radioactive fallout

17. As one moves from the continental edge to the centre of a geosyncline, what happens to the size of the sediments making up the rock layers?..........(17) __________
(A) increases
(B) decreases
(C) remains the same
(D) becomes increasingly mixed

18. Which is the best evidence of crustal movement?..........(18) __________
(A) a lava flow
(B) a buried soil profile
(C) tilted sedimentary rock
(D) sediments below sea level

19. By which of the following can the age of a fossil often be determined?..........(19) __________
(A) its shape
(B) the position of the layer of rock in which it is found
(C) the type of igneous rock in which it is found
(D) its colour

20. What is most often used to place the geologic events of an area into relative age sequence?..........(20) __________
(A) degree of deformation of the rocks
(B) fossils found in the rocks
(C) radioactive minerals in the rocks
(D) degree of weathering of the different rocks

21. Which is the best explanation for the cleavage of mica into thin layers?..........(21) __________
(A) high density of mica
(B) softness of mica
(C) arrangement of mica molecules
(D) impurities found in mica

22. During which geologic era or time frame did the Canadian Shield form?..........(22) __________
(A) Precambrian
(B) Mesozoic
(C) Cenozoic
(D) Paleozoic

23. Which mineral forms in deep sea environments?..........(23) __________
(A) corundum
(B) rock salt
(C) manganese
(D) gypsum

24. At which locations are major mountain systems thought to have developed?..........(24) __________
(A) major ocean basins
(B) ocean trenches
(C) thin sediments
(D) former geosynclines

25. Which of the following would indicate a hot dry climate?..........(25) __________
(A) gypsum
(B) fossil corals
(C) lava flows
(D) ripple marks in shale

26. Which of the following is NOT necessarily evidence of glaciation?..........(26) __________
(A) scratches on exposed bedrock
(B) deposits of unsorted till
(C) large areas of bedded sediment
(D) terminal moraine deposits

27. Which has the least influence on the rate at which a particle settles in a liquid?..........(27) __________
(A) liquid density
(B) liquid depth
(C) particle density
(D) particle shape

28. What is the name given to the geological feature of underwater, flat-topped mountains?..........(28) __________
(A) atolls
(B) seamounts
(C) reefs
(D) adaptions

29. What term is used for the upward fold of sedimentary rock? ....(29) ________
(A) anticline
(B) cross bedding
(C) syncline
(D) geosyncline

30. What term refers to the ladder-like drainage pattern typical of areas where folded sedimentary rocks have eroded into parallel ridges and valleys? ....(30) ________
(A) radial
(B) trellised
(C) dendritic
(D) polarized

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

GEOLOGY 3203

JUNE 1989

PART II

Value: 70 marks

Time: 2 hours, 30 minutes

GENERAL INSTRUCTIONS

1. Part II consists of essay items only arranged in four sections with requirements as follows:

   SECTION A — Do any ONE item — 10%
   SECTION B — Do any THREE items — 30%
   SECTION C — Do any TWO items — 20%
   SECTION D — Do any ONE item — 10%

2. One sheet of graph paper is provided for use in doing item #2.

3. Answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

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— Materials required
— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
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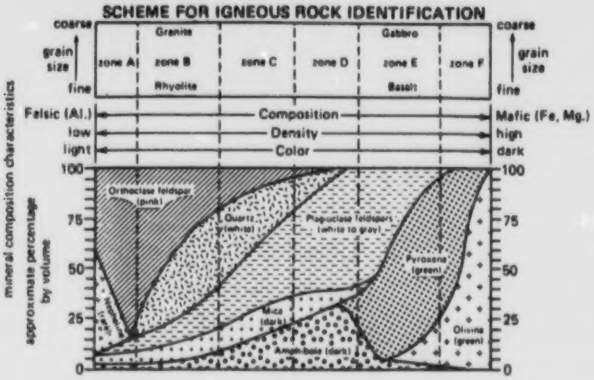
— Use of unauthorized means, and penalties

Value

SECTION A
Investigative Skills

Do any ONE complete item from this section. Total value: 10%

1. Do all parts of this item based on the following chart:



1 (a) Which minerals occur in most of the rock types — i.e., found in nearly every rock type?

2 (b) Calculate the average percent of the various minerals making up gabbro.

2 (c) Briefly describe any difference between gabbro and basalt.

1 (d) What is the plutonic equivalent of rhyollite?

2 (e) A rock type is composed of the following minerals and approximate percentages: amphibole 4%, mica 7%, plagioclase feldspar 6%, quartz 23%, orthoclase feldspar 61%. Use the chart to determine the name of this extrusive igneous rock.

2 (f) Would rocks from zone F be found as part of the continents or as part of the ocean floor? Explain.

2. A student wishes to determine the relationship between stream slope and amount of erosion.

3 (a) Plan an experiment that could be done to establish this relationship.

1 (b) Give a hypothesis for the above experiment.

2 (c) Assume that the student collected the data in the table below. Plot these data on the graph paper provided.

Stream Slope (degrees)	Amount of Erosion (grams)
5	1
10	3
15	5
20	7
25	12
30	15
35	21
40	28
45	34

Value

2 (d) List **two** variables which must be kept constant in this experiment.

1 (e) What is the major agent of erosion for this investigation?

1 (f) Write a conclusion for the experiment.

SECTION B

Do any **THREE** complete items from this section. Total value: 30%.

4 3. (a) Sketch and label a diagram of a mature soil profile, and describe the composition of each layer.

3 (b) In which type of rock would you expect to find the fossil fuels, coal and oil? Explain why.

3 (c) Explain why almost all of the sand particles in a sand dune would be composed of quartz.

3 4. (a) Using a series of labelled diagrams, explain how a typical geosyncline forms.

3 (b) List and briefly describe **three** pieces of evidence which suggest that geosynclinal sediments were deposited in shallow water.

4 (c) Using appropriate diagrams, explain the difference between a normal fault and a reverse fault.

6 5. (a) Identify and describe the formation of the **three** main classes of rocks.

2 (b) Why is the colour of the streak of a mineral better than the colour of a mineral?

2 (c) How could you distinguish between a basaltic lava flow covered by a layer of younger sedimentary rock, and a layer of basaltic rock forced between two layers of older sedimentary rock?

4 6. (a) Discuss how mid-ocean ridges, geosynclinal mountains, and island arcs suggest that the crust of the earth moves.

4 (b) With the aid of a diagram, account for the formation of rocks, called schist and gneiss, that suggest a possible non-igneous origin of granite.

2 (c) State **two** factors which influence the rate at which a rock will weather.

SECTION C

Do any **TWO** complete items from this section. Total value 20%.

3 7. (a) List and briefly describe **three** pieces of evidence which can be used to determine whether a sedimentary sequence is right side up or upside down.

4 (b) Name and describe the **three** basic parts common to all continents. List them in order from oldest to youngest.

3 (c) It appears as though the oldest known rocks on earth are sedimentary rocks. Does this mean that the first rock-forming process on earth was sedimentation? Explain.

3 8. (a) How can it be proven that there was more than one glacial advance during the Pleistocene epoch?

2 (b) What is the main requirement for glaciers to form?

3 (c) Where did the glacial ice originate? How do we prove this?

2 (d) What is the difference between glacial till and outwash?

2 9. (a) Describe a typical area in which internal forces dominate external forces.

3 (b) Briefly describe the difference between the Principle of Superposition and the principle of Uniformitarianism.

3 (c) Describe the difference between measured time and relative time.

2 (d) Why were earth scientists unable to prove before the year 1907 that the earth was more than 20 to 40 million years old.

Value

SECTION D

Do any **ONE** item from this section. Total value: 10%.

3 10. (a) Explain the difference between earthquake magnitude and earthquake intensity.

2 (b) What are **two** types of seismic waves that cause most earthquake damage?

3 (c) Describe what seismic waves have revealed about the earth's interior.

2 (d) What is the major source of heat in the earth's interior?

3 11. (a) What is a "Magnetic Reversal"? Explain how it is recorded and preserved in the earth and how it can be used as evidence for sea floor spreading.

3 (b) List and briefly describe the **three** boundaries at which the crustal plates meet.

2 (c) Why would the modern continents not fit at their coastlines if you could push them together to form Pangaea?

2 (d) What part of the earth's surface first led Alfred Wegener to think that the continents had once fit together?

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

PHYSICS 3204

JUNE 1989

PART I

Value: 30 marks

Time: 45 minutes

Examination Number ________________

GENERAL INSTRUCTIONS

1. Part I consists of objective items only, arranged in two sections as follows:

   SECTION A — 15 completion — 15%
   SECTION B — 15 multiple-choice — 15%

2. Do **all** items as directed in each section.
3. All answers are to be written in this paper.
4. Be sure to write your Examination Number in the space provided above.

REGULATIONS FOR CANDIDATES

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SECTION A

Do **ALL** items in this section by writing the correct response for each in the blank at the right. Total value: 15%.

1. What part of the ear converts sound waves into mechanical vibrations?........................(1) ____________________

2. What physical property of a sound wave mainly determines its pitch?..........................(2) ____________________

3. Two sounds with frequencies of 400 Hz and 395 Hz are produced at the same time. What is the beat frequency produced?..........................(3) ____________________

4. What is the name of the pattern of colours formed when white light is dispersed by a prism?..........................(4) ____________________

5. If the index of refraction of a substance is 1.4, what is the speed of light in the substance ($C_v = 3 \times 10^8$ m/s)?..........................(5) ____________________

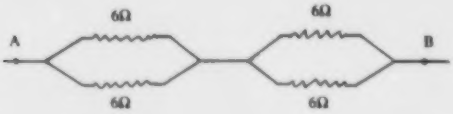
6. What is the name of the area of the retina which produces the greatest perception of detail?..........................(6) ____________________

7. Who discovered and named diffraction in 1666?..........................(7) ____________________

8. A piece of copper wire has a resistance of 100 ohms. If it is cut into ten equal lengths and the lengths are connected in parallel, what is the resistance of the wire?..................(8) ____________________

9. Determine the work required to move 4 coulombs of charge through a potential difference of 12 volts..........................(9) ____________________

10. What is the total resistance between points A and B in the diagram below?.................(10) ____________________



11. Determine the charge transferred by a current of 2 amperes flowing for 8 seconds.......(11) ____________________

12. What part of a DC motor reverses the direction of current flow in the armature?..........(12) ____________________

13. What type of transformer has a greater number of turns on the primary coil than on the secondary coil?..........................(13) ____________________

14. What scientist first used what has come to be known as "field theory" to describe electrical and magnetic forces?..........................(14) ____________________

15. What current does a 100-watt bulb draw from a 120-volt circuit?..........................(15) ____________________

SECTION B

Do **ALL** items in this section by writing the letter of the correct response for each in the blank at the right. Total value 15%.

16. Which of the following scientists believed strongly in the corpuscular or particle theory of light?.....................(16) __________
    (A) Huygens
    (B) Newton
    (C) Fresnel
    (D) Grimaldi

17. Which of the following phenomena shows the transverse nature of light waves?..(17) __________
    (A) rectilinear propagation
    (B) interference
    (C) refraction
    (D) polarization

18. What effect, produced by aircraft exceeding the speed of sound, causes them to be banned from inhabited areas? ....(18) ________
   (A) sonic boom
   (B) Doppler effect
   (C) resonance
   (D) reverberation

19. How may spherical aberration be reduced in spherical concave mirrors? ....(19) ________
   (A) Reduce the aperture.
   (B) Reduce the radius of curvature.
   (C) Increase the object distance.
   (D) Decrease the focal length

20. What characteristic of sound is the micropascal, μ Pa, sometimes used to measure? ....(20) ________
   (A) intensity
   (B) wavelength
   (C) frequency
   (D) speed

21. Which of the following results from sound wave interference? ....(21) ________
   (A) damping
   (B) the Doppler effect
   (C) standing waves
   (D) reverberation

22. Which of the following is NOT a reason why astronomers wish to place a deep space telescope in orbit about the earth? ....(22) ________
   (A) to be nearer the things being viewed
   (B) to eliminate the problems of atmospheric distortion
   (C) to obtain 24-hour-a-day viewing
   (D) to be able to see more parts of the electromagnetic spectrum

23. Which device is used to protect a parallel circuit against an overload? ....(23) ________
   (A) relay
   (B) fuse
   (C) transformer
   (D) switch

24. The force of attraction between two charged bodies is 8 N. If the distance between them were reduced to 1/2 the original distance, what would the attractive force then be? ....(24) ________
   (A) 2 N
   (B) 4 N
   (C) 16 N
   (D) 32 N

25. Which factor when doubled in a circuit would cause the greatest increase in the heat produced in the circuit? ....(25) ________
   (A) resistance
   (B) voltage
   (C) current
   (D) charge

26. A 10-ohm and a 20-ohm resistor are connected in parallel across a 12-volt battery. Which of the following statements is correct? ....(26) ________
   (A) The voltage is greatest across the 10-ohm resistor.
   (B) The voltage is greatest across the 20-ohm resistor.
   (C) The current is greatest through the 10-ohm resistor.
   (D) The current is greatest through the 20-ohm resistor.

27. Which physical principle explains why a coil of wire in a completed circuit is repelled from an approaching magnet? ....(27) ________
   (A) Ampere's rule
   (B) Coulomb's Law
   (C) Ohm's Law
   (D) Lenz's Law

28. What is the total resistance when three resistors of 10, 15 and 30 ohms are wired in parallel? ....(28) ________
   (A) 5 ohms
   (B) 10 ohms
   (C) 20 ohms
   (D) 60 ohms

29. Which of the following does the electrical charging of an object involve? ....(29) __________
    - (A) transfer of negative charges only
    - (B) transfer of positive charges only
    - (C) transfer of either positive or negative charges
    - (D) transfer of neither positive nor negative charges

30. What must be done to convert a galvanometer into an ammeter? ....(30) __________
    - (A) Connect a large resistor in series with the coil.
    - (B) Connect a low resistor in series with the coil.
    - (C) Connect a large resistor in parallel with the coil.
    - (D) Connect a low resistor in parallel with the coil.

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

PHYSICS 3204

JUNE 1989

PART II

Value: 70 marks

Time: 2 hours, 15 minutes

GENERAL INSTRUCTIONS

1. Part II consists of essay items only arranged in two sections with requirements as follows:

   *SECTION A — Do **ONE** item only — 10%*
   *SECTION B — Do any **SIX** items — 60%*

2. Stencils may be used for drawing figures, and calculators may be used if desired.
3. One sheet of graph paper is provided for use in Item No. 1.
4. Answers are to be written in the answer booklet provided.

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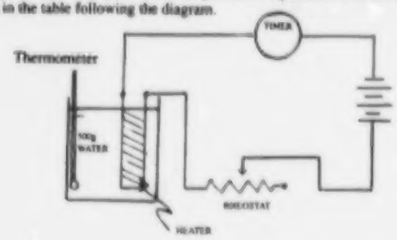
Value

SECTION A

Investigative Skills

Do any **ONE** complete item from this section. Total value 10%.

1. An experiment was performed to determine the relationship between the current flowing into an electric heating element and the amount of heat energy produced. The apparatus was set up as shown below. The rheostat was set and a measured amount of current was allowed to flow for a period of 2 minutes. The temperature of the water was measured before and after, and the increase in temperature of the water was determined. The rheostat was reset, the 500 g of water was replaced, and the procedure repeated for several different current values, yielding the data given in the table following the diagram.



Current (I) (amperes)	**Temp. Increase** (C°)
0.2	2.2
0.4	8.8
0.6	19.8
0.8	35.2
1.0	55.0

2 (a) Plot a graph with temperature on the vertical axis and current squared on the horizontal axis.

1 (b) What does the graph indicate about the relationship between temperature and current squared?

2 (c) Find the slope of the graph and use it to write an equation for the relationship.

2 (d) Name the dependant and independant variables in this experiment.

1 (e) Name a control variable for the experiment.

2 (f) Use the equation from (c) above to predict the current required to raise the temperature of the water by 40C° with this apparatus.

2. You have been asked to determine the relationship between the length of a wire and its resistance. You are given a long piece of copper wire, a battery, an ammeter and a voltmeter.

1 (a) State a hypothesis for your investigation.

3 (b) Draw a neat labelled diagram to show how you would connect the given apparatus.

4 (c) Write a brief account of how you would carry out the investigation.

1 (d) Give one variable which should be controlled during the investigation.

1 (e) Name the dependent variable.

Value

SECTION B

Do any **SIX** complete items from this section. Total value: 60%.

3. "Theory describes and experiment decides" is a maxim of science.

4 (a) Describe the **two** theories about the nature of light that were prevalent during the seventeenth century.

6 (b) Describe the pivotal experiments performed by Young and Fresnel which convinced most physicists of the wave nature of light.

3 4. (a) A thunder clap is heard four seconds after a lightning flash is seen on a night when the temperature is 15°C. Determine the distance that the lightning strike is from the observer. (V = 331.6 m/s + 0.6 m/s/°C).

4 (b) With the aid of a diagram, explain the Doppler Effect.

3 (c) State **three** ways in which dangerous mechanical resonance may be reduced in a system.

4 5. (a) An object 4 cm high is placed 40 cm from a concave mirror of focal length 30 cm. Determine by ray diagram or equation the location and height of the image.

3 (b) Draw a diagram showing the formation of an image of an object placed inside the focus of a convex lens.

3 (c) Describe the **three** major properties of a telescope, and indicate what physical property of the lenses determines each.

6. With the aid of neat, labelled diagrams, explain the following phenomena:

3 (a) Dispersion

3 (b) Sonic Boom

4 (c) Total Internal Reflection

2 7. (a) State the Law of Conservation of Electric Charge.

3 (b) Use Coulomb's Law to calculate the electric force between two identical charges of 5×10^{-6} coulombs if they are separated by a distance of 0.5 m between their centres. The constant for the equation is $k = 9 \times 10^{9}\ N\text{-}m^2/C^2$.

2 (c) State two differences between the electric force and the gravitational force.

3 (d) Before an aircraft refueler services a parked airplane he connects a ground wire from his tank truck to the plane. Explain, from the view point of static electricity, why this has to be done.

8. Three resistors, $R_1 = 12\Omega$, $R_2 = 8\Omega$ and $R_3 = 4\Omega$, are connected in series to a 12-volt battery.

3 (a) Draw a neat circuit diagram (schematic) using proper symbols.

2 (b) Calculate the total resistance of the circuit.

2 (c) Calculate the total current being drawn from the battery.

2 (d) Calculate the voltage drop (potential drop) across R_2.

1 (e) What happens to the energy that is used by the resistors in this circuit?

4 9. (a) Michael Faraday used an induction coil when he made his discovery of electromagnetic induction. Draw a labelled diagram of this device, and explain what it was he discovered.

(b) Draw diagrams showing the fields between the following:

2 (i) Two bar magnets whose north poles are placed close together.

2 (ii) A positively charged sphere and a negatively charged sphere that are placed close together.

2 (c) State two things that can be done to change the strength of an electromagnet.

Value			
4	10.	(a)	Describe, with the aid of a diagram, the operation of a DC generator.
2		(b)	Explain why a fuse must be used to protect against an overload in a parallel circuit.
4		(c)	Determine the value of a shunt resistor required to convert a galvanometer with a coil resistance of 80 ohms and a full scale deflection of .001 amp into an ammeter with a full scale deflection of 5 amps.

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

ENVIRONMENTAL SCIENCE 3205

JUNE 1989

Value: 100 marks

Time: 3 hours

GENERAL INSTRUCTIONS

1. The examination consists of essay items only, arranged in three sections with requirements as follows:

   *SECTION A — Do **ALL** items — 20%*
   *SECTION B — Do **ALL** items — 50%*
   *SECTION C — Do **ITEM 10**, and any **ONE OTHER** — 30%*

2. One sheet of graph paper is provided for use in item #4.

3. Answers are to be written in the answer booklet provided.

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— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

Value

SECTION A

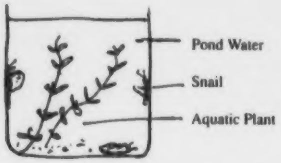
Do **BOTH** items in this section. Total value: 20%.

4 1. (a) (i) What is temperature inversion?
(ii) How do the burning of fossil fuels affect the intensity of temperature inversion?
(iii) Explain how temperature inversion may be controlled.

6 (b) Define clearly any **THREE** of the following - use examples and diagrams where possible:
(i) mutalism
(ii) food web
(iii) legumes
(iv) emphysema
(v) biome

2. Do **ONE** part only - either (a) or (b).

(a) Two environmental studies students set out to discover the effects of adding nutrients to an ecosystem. They filled a 1-litre jar with pond water, and added two strands of an aquatic plant, three snails, and 10 grams of lawn fertilizer containing nitrogen, phosphorus and potassium. The jar was then placed in a bright location for two weeks.



2 (i) Is this a closed or an open ecosystem? Explain.

2 (ii) Why were snails added to the jar?

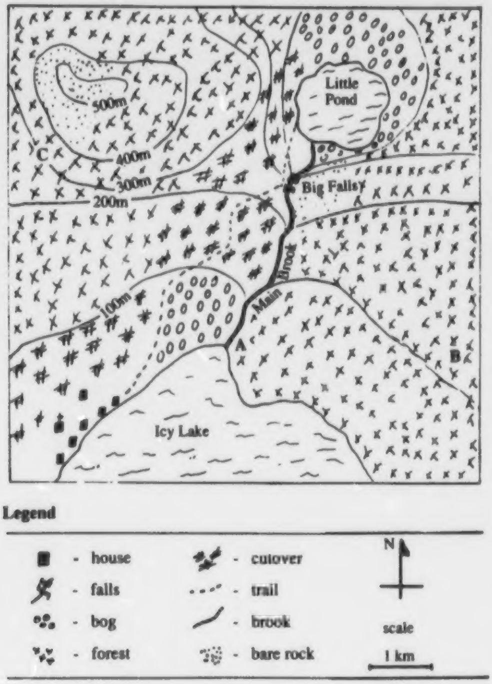
2 (iii) Briefly describe any changes you expect to see in the jar over the two-week period.

2 (iv) Tell what the students could do to ensure that the changes in the jar were due only to the addition of the fertilizer.

2 (v) Why must farmers be careful not to let fertilizers enter into ponds and streams on their farms?

Value

(b) A group of students doing a field study of a selected site made a sketch as shown below. Do parts (i) to (v) below based on this sketch.


500m
400m
300m
200m
100m
C
Little Pond
Big Falls
Main Brook
A
B
Icy Lake
Legend
house
falls
bog
forest
cutover
trail
brook
bare rock
N
scale
1 km

2 (i) A student walked from point A to point B. Approximately how far did the student walk and in what direction?

2 (ii) A company is to build a sawmill at point A. What effects might this have upon aquatic life in the area?

2 (iii) To provide power for the sawmill, a dam and hydro-electric plant are to be constructed at Big Falls. How might this affect Little Pond and the surrounding area?

2 (iv) Identify two things on the map which indicate man's presence.

2 (v) A road is to be built from point A to point C. Briefly describe the area through which the road will pass.

Value

SECTION B

This section contains several items interspersed throughout a case study focusing on the Woodland Caribou. Read the study carefully and do **ALL** items as directed in each. Total value: 50%.

WOODLAND CARIBOU

The woodland caribou (Rangifer caribou) is native to the island of Newfoundland. It is one of the larger members of the deer family and may weigh up to 330 kg. Both males and females bear antlers which are shed every winter. The coarse, heavy coat of the caribou enables it to live in open, windswept areas during the winter, where it digs through the snow for mosses, lichens and grasses.

The woodland caribou has disappeared from much of its former range in Newfoundland. Before 1900 the population was estimated at between 100 000 and 200 000 animals. After the building of the railway across the Island, this figure had been reduced to just over 10 000 by the year 1930. Since then the caribou has increased in numbers until today. Now the population is large enough to support an annual hunt. Approximately 2000 licenses are issued each year in selected areas.

3 3. (a) Briefly describe the woodland caribou.

3 (b) What has happened to the caribou population in the past 90 years in Newfoundland?

3 (c) Why would the building of the railway across the island of Newfoundland affect the caribou population?

Caribou live up to 15 years. The males are generally larger than the females. Their main predators are the black bear, which can kill even adult males, and the lynx, which kills mainly young calves. Caribou are generally shy animals that usually avoid contact with humans. Caribou usually travel in small groups of 5-20 animals, except during the "rutting" season and calving season, when larger groups gather.

Table 1

Age and Size of Caribou

AGE (years)	WEIGHT (kg)	
	MALE	FEMALE
1	50	50
2	90	80
3	115	95
4	135	110
5	?	130
6	180	140
7	205	145

5 4. (a) Using the graph paper provided, construct one properly labelled line graph of weight vs age. Use one line for males and one line for females.

2 (b) From the graph determine the weight of a 5-year-old male caribou.

4 (c) Describe **two** conclusions that can be drawn from your graph.

2 5. (a) Name two predators of the caribou.

4 (b) **Either**

Draw an energy pyramid to show the numbers and complexity of organisms associated with the caribou.

Or

Draw a food web which includes the caribou.

In order to better control the size of the caribou population in Newfoundland, the island has been divided into several management areas. The size of the population in each area can be partly controlled by the number of licenses issued each year.

Value

In 1988 the caribou management area known as Area 68 (Mt. Peyton) was reopened for hunting. This area had been closed for a number of years because the caribou population was considered too small to support a hunt. In 1988 a quota of 60 licenses was issued. This included 20 either sex licenses and 40 male only licenses. The quota was small so that continued growth of the population could be ensured.

The area around Mt. Peyton has been heavily harvested by the pulpwood industry over the past 40 years. Many miles of roads were constructed and large areas of forest have been cleared. These activities have now been greatly reduced and caribou are returning to the area. The cutover areas provide a good source of food and many of the old roads are now used by the caribou as trails for migration to and from feeding areas.

3 6. (a) Why would an area be closed to hunting?

4 (b) **Either**

Give **two** reasons why harvesting pulpwood would greatly decrease the number of caribou in an area.

Or

Explain **two** ways harvesting pulpwood has been beneficial to the caribou population.

2 7. (a) What is a quota?

4 (b) How can the caribou population increase in this area if 60 licenses have been issued to hunters?

Management of caribou populations in Newfoundland is essential if the number of animals is expected to reach the level which the ecosystem can support. Habitat protection, public education and law enforcement are just a few of the challenges faced by wildlife officials. In recent years caribou have been reintroduced to areas where they were eliminated in the past. Laws have been passed allowing for stricter penalties for poaching.

In order to increase and maintain a healthy caribou population, everyone must be more concerned and involved. This will ensure that the caribou will continue to provide enjoyment for future generations.

3 8. (a) What is habitat protection?

2 (b) Name **two** ways the caribou population in Newfoundland may be increased.

6 9. **Either**

Discuss how the general public may help in wildlife management.

or

Poaching is a major problem facing wildlife management. Discuss this problem referring to such aspects as the nature and causes of the problem, and solutions.

SECTION C

Do item #10 and any one other from this section - **TWO** items in all. Total value: 30%

7 10. (a) Suppose you live in a small fishing town in Placentia Bay where your father is a fisherman. The town has recently received notice that a company wishes to construct an oil refinery near your town. Crude oil is to be shipped from overseas in large oil tankers to the refinery. Would you support this project? Give reasons. What groups of people may not agree with you? Why?

6 (b) In the near future, Newfoundland will try to meet its energy needs by developing a hydro electric project at the Lower Churchill in Labrador.

(i) Give **two** advantages of hydro electric power.

(ii) Give **two** disadvantages of hydro electric power.

(iii) Do you think Newfoundland should meet its future energy needs by developing hydro electric projects like the Lower Churchill? Explain.

Value

2 (c) In 1982, Canada signed the Law of the Sea Treaty which gave it a 200-mile exclusive economic zone. State **two** advantages of this zone to Canada.

7 11. (a) There is a growing awareness throughout the world that we must decrease our dependency on fossil fuels.

(i) Give **two** reasons why we should decrease our use of fossil fuels.

(ii) Suggest **two** ways in which we can reduce our use of fossil fuels.

(iii) List **three** alternate sources of energy.

4 (b) Why has the spread of water hyacinth in tropical countries caused such major problems?

4 (c) Describe **two** methods of cleaning up an oil spill.

7 12. (a) Scientists have yet to find a safe way to dispose of nuclear waste.

(i) Why is the disposal of nuclear waste so difficult?

(ii) What is happening now to the waste material from nuclear plants?

(iii) Give two possible solutions that have been suggested for this problem.

4 (b) The destruction of the tropical rainforest is considered to be a global problem. Why?

4 (c) Give **two** reasons for having a Treaty of the Moon.

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

WORLD HISTORY 3201

JUNE 1989

Value: 100 marks

Time: 3 hours

GENERAL INSTRUCTIONS

1. The examination consists of essay items only arranged in three sections with requirements as follows:

   SECTION A — Do any ONE complete item — 16%
   SECTION B — Do any FOUR complete items — 64%
   SECTION C — Current Events — Do any TWO complete items — 20%

2. Answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

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— Use of unauthorized means, and penalties

Value

SECTION A

Do any **ONE** complete item from this section. Total value: 16%.

1. By the mid 1850's, science and technology had combined to produce economic growth not seen before in history. The Industrial Revolution, which began in Britain, was by 1900 firmly established in Western Europe and North America.

3 (a) List three inventions/scientific advances which contributed to the growth of industry prior to 1900.

7 (b) Why did industrialization occur first in Britain?

6 (c) Industrialization in the eighteenth-nineteenth centuries brought mixed blessings to the western world, as was particularly evident in the factories of nineteenth century Britain. Briefly describe conditions in early British factories, and outline how workers and governments eventually responded to them.

2. Nationalism has historically been a force capable of forging unity, as in the case of nineteenth century Italy and Germany. The discord created within Austria-Hungary indicates that it can also have the opposite effect, that it can tear nations apart.

3 (a) Briefly define "Nationalism".

7 (b) Outline the importance of strong leadership in creating a united Germany, **OR** a united Italy, in the late nineteenth century.

6 (c) Describe the effect of nationalism on the multicultured Austro-Hungarian Empire in the several decades prior to the Versailles Peace Treaty.

3. Imperialism has had a profound and enduring impact in the world, which can still be seen in the distrust and hostility which the Third World often directs at the Industrialized West.

3 (a) Briefly define imperialism as it was practised in the latter half of the nineteenth century.

7 (b) Imperialism produced both negative and positive effects on the colonized nations. Briefly describe these effects (both positive and negative) with reference to any one of the colonized regions.

6 (c) Imperialism in general is summed up in the expression, "For Gold, God and Glory". With reference to the reasons for imperialism, explain why you agree or disagree with this statement.

SECTION B

Do any **FOUR** complete items from this section. Total value: 64%.

4. In 1914, the nations of Europe stumbled into one of history's great conflicts — the First World War. Expected to last a few months, this war that nobody wanted dragged on for four long years and eventually involved practically every major nation in the world.

3 (a) The War started when the heir to the Austrian throne was shot on a visit to Bosnia. Why was Bosnia a dangerous place for an Austrian prince to visit?

7 (b) President Wilson of the United States helped bring the War to a conclusion with the proclamation of his Fourteen Points. List **three** of these Fourteen Points.

6 (c) In the Versailles Treaty, Germany was forced to accept total blame for starting the War. Was this a fair judgment?

5. Out of the political, social and economic chaos of the post-World War I years there emerged the Fascist regimes that were to dominate Germany, Italy and Spain, and lead eventually to another World War.

3 (a) Identify the leaders of the Fascist regimes in Italy, Germany, and Spain.

7 (b) With reference to political, social and economic conditions, describe life in Germany, **OR** Italy, **OR** Spain, under Fascism.

Value

6 (c) Fascism seems very much dependent on the existence of strong leadership both in coming to power and in governing. With reference to any one or all three of the Fascist governments in question, do you agree with this statement? Why?

6. Despite the best efforts of Europe's statesmen during the 1920's and 1930's, just twenty years after the signing of the World War I peace treaty the world was once again plunged into war with the Nazi invasion of Poland in September 1939.

3 (a) A major factor contributing to the outbreak of World War II was almost certainly the policy of appeasement. Define "appeasement".

7 (b) Explain the significance of **two** of the following in World War II:

(i) the Battle of Britain

(ii) the German invasion of the Soviet Union

(iii) the Japanese bombing of Pearl Harbor

6 (c) Adolf Hitler must bear the greatest responsibility for World War II. Is this a valid conclusion? Discuss.

7. Two themes dominated the years following World War II: Western Europeans rebuilt their economies and emerged as a strong economic force in world affairs, and during this period of growth in Western Europe, the Soviet Union consolidated its stranglehold on Eastern Europe, and thereby helped cause the Cold War.

3 (a) Define the term "Cold War".

7 (b) Briefly describe the developments which led to the rebuilding of the European economies in the wake of World War II.

6 (c) Outline the extent of Soviet expansion during the post-1945 period, and show how the allies, led by the United States, tried to contain that expansion.

8. In the three decades following World War II, many nations throughout Africa, Asia and Latin America achieved independence from Western dominance.

3 (a) Name **three** countries which became independent following World War II.

7 (b) Outline **three** factors which contributed to the desire for independence among these countries.

6 (c) Briefly describe **three** major problems faced by the newly independent nations of Africa, Asia, and Latin America.

9. Since World War II, a number of trouble spots have emerged to occupy the world's attention at various times. Of these trouble spots, none has been more consistently volatile than the Middle East.

3 (a) Name **three** Arab countries which make up the Middle East.

7 (b) Outline the background to the ongoing Arab-Israeli dispute.

6 (c) Perhaps more than most regions of the world, the Middle East, in the last forty years, has undergone revolutionary change in economic, social and political affairs. Would you describe these changes as being mostly for the better? Discuss.

Value

SECTION C

Current Events

Do any **TWO** complete items from this section. Total value: 20%.

10. In the last two years, the Soviet Union has embarked upon a program of political and economic reforms — **perestroika** and **glasnost**. These reforms are being spearheaded by the General Secretary of the Communist Party, Mikhail Gorbachev.

5 (a) Outline some of the changes that perestoika and glasnost represent.

5 (b) Why are these changes being opposed by the old guard of the Communist Party?

11. The events of the past year in the Middle East could probably signal significant changes in the future.

5 (a) As a result of the continued heavy handed Israeli action on the West Bank (of the Jordan River), the relationship between Israel and the United States is changing. Explain how and why that relationship has changed.

5 (b) Yasser Arafat and the Palestine Liberation Organization have adopted a radically different policy toward Israel in the past few months. Exactly how has this policy changed from the traditional Palestinian position?

12. The November, 1988 election in Canada was fought on the issue of free trade with the United States. In effect, it was a one-issue election.

5 (a) What does the free trade agreement promote?

5 (b) During the election it was suggested that the pro-free traders were people of reason, while the anti-free traders had emotion on their side. With reference to the campaign, was this a fair assessment of the election?

13. Choose **two** of the following topics, and in a paragraph or two for each, explain their significance as news items in the past year.

5 (a) Soviets launch their first space shuttle.

5 (b) Development of stealth fighter bomber technology by the United States.

5 (c) The discovery of holes in the ozone layer above both the Arctic and the Antarctic regions.

5 (d) The environmental threat posed by acid rain.

5 (e) The failure of science (in the past few years) to provide accurate information on the Northern Cod stocks.

14. The Canada-France Fish Dispute has received widespread media attention and has generated considerable ill feelings between the two countries.

3 (a) Briefly describe the issues involved in the dispute.

3 (b) In one of the most curious twists in international relations, the French islands of St. Pierre et Miquelon denounced France in this dispute. Explain why.

4 (c) What is the current status of this dispute?

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

WORLD GEOGRAPHY 3202

JUNE 1989

PART I

Value: 30 marks

Time: 40 minutes

Examination Number ________________

GENERAL INSTRUCTIONS

1. Part I consists of thirty multiple-choice objective items at one mark each, and candidates are required to do **all** items.
2. All answers are to be written in this paper.
3. Be sure to write your Examination Number in the space provided above.

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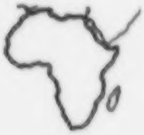
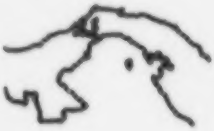
Write the letter of the correct response for each of the following in the blank at the right. Total value: 30%.

1. Which one of the following (bold lines) best illustrates a gulf? ....(1) ________

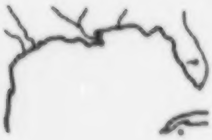
(A)



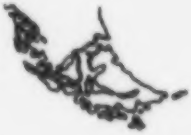
(C)



(B)



(D)



2. What are the "crests" or upfolds of a folded mountain called? ....(2) ________
   (A) synclines
   (B) geosynclines
   (C) anticlines
   (D) grabens

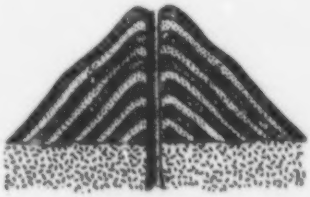
3. What is the process whereby rock surfaces expand and peel off as a result of rapid heating and cooling? ....(3) ________
   (A) scree
   (B) exfoliation
   (C) chemical weathering
   (D) talus

4. Which one of the following is a feature of wind erosion? ....(4) ________
   (A) stock
   (B) loess
   (C) striations
   (D) delta

5. Which one of the following does NOT result from glacial erosion? ....(5) ________
   (A) horn
   (B) cirque
   (C) barcan
   (D) arete

6. What is the concentric layer of material that forms the earth's crust called? ....(6) ________
   (A) outer core
   (B) mantle
   (C) inner core
   (D) lithosphere

7. What type of cone is illustrated by the volcano in the diagram below? ....(7) ________
   (A) ash and cinder
   (B) shield
   (C) composite
   (D) normal



8. What term describes precipitation caused by up-currents of moist, warm air rising to meet cooler air?............(8) __________
   (A) orographic
   (B) convectional
   (C) frontal
   (D) cyclonic

9. Which of the following refers to the daily atmospheric conditions for a particular area? ....(9) __________
   (A) weather
   (B) temperature
   (C) climate
   (D) greenhouse effect

10. Which one of the following is NOT an organic resource? ....(10) __________
   (A) metals
   (B) fauna
   (C) zooplankton
   (D) forests

11. What is the upward movement of soluble material through the soil called? ....(11) __________
   (A) leaching
   (B) eluviation
   (C) erosion
   (D) capillary movement

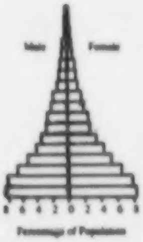
12. Which one of the following involves ploughing and planting along horizontal lines on sloping land? ....(12) __________
   (A) contour planting
   (B) cover cropping
   (C) terracing
   (D) strip cropping

13. What are organisms that feed directly on plant life called? ....(13) __________
   (A) primary composers
   (B) producers
   (C) secondary consumers
   (D) decomposers

14. What term refers to the number of people per square unit of farmland? ....(14) __________
   (A) nutritional density
   (B) demography
   (C) land distribution
   (D) population density

15. Which of the following is used to determine population density? ....(15) __________
   (A) number of people per square unit of farmland
   (B) total population and square units of land
   (C) number of immigrants per 1000 people
   (D) total population and square units of arable land

16. Which one of the following best describes the population pyramid diagrammed below? ....(16) __________
   (A) low death rate among the elderly
   (B) population young and expanding
   (C) zero growth because of equal birth and death rates
   (D) population contracting



17. **What type of mining does NOT involve removing the top layer of the soil in order to mine the mineral near the surface?** ......(17) __________
   (A) **quarrying**
   (B) **open-pit mining**
   (C) **underground mining**
   (D) **strip mining**

18. What term refers to activities which involve the direct use of natural resources? ......(18) __________
   (A) service
   (B) manufacturing
   (C) primary
   (D) secondary

19. What term is used to describe goods used to manufacture other goods? ......(19) __________
   (A) consumer
   (B) manufactured
   (C) durable
   (D) capital

20. Which of the following means the total value of all goods and services produced in a country in a year? ......(20) __________
   (A) standard of living
   (B) per capita gross national product
   (C) gross national product
   (D) carrying capacity

21. Which one of the followng is **NOT** a part of the cultural landscape? ......(21) __________
   (A) road systems
   (B) farm terraces
   (C) mountains
   (D) fences

22. What system of land ownership is found in Canada, the United States and many European countries? ......(22) __________
   (A) communal
   (B) state
   (C) private
   (D) collective

23. Which of the following is illustrated by the arrangement of Chilean city-sizes given in the table below? ......(23) __________
   (A) arithmetic progression
   (B) rank-size
   (C) regression
   (D) primacy

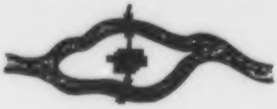
Chilean City-Sizes

Santiago	3 850 000
Vina del Mar	262 600
Valparaiso	248 200
Talcahuano	204 100
Concepcion	172 800

24. What are highways that loop around a city to keep long-distance traffic out of the centre of the city? ......(24) __________
   (A) beltways
   (B) subways
   (C) light-transit routes
   (D) arterials

25. What is a very large urban area formed when the boundaries of several cities are merged? ......(25) __________
   (A) inner city
   (B) suburb
   (C) megalopolis
   (D) metropolis

26. Which of the following is indicated by point X in the figure below? ....(26) __________
(A) river island site
(B) confluence site
(C) sheltered harbour
(D) head of navigation site

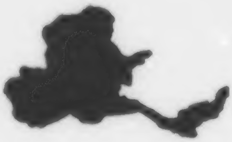


27. Which of the following terms refers to a transportation site characterized by a stream that, at a given location, is shallow and has a firm bed? ....(27) __________
(A) acropolis
(B) river-fiord
(C) port
(D) break-of-bulk

28. Which of the following is an example of a National linkage in Canada? ....(28) __________
(A) Quebec Air
(B) Alberta pipeline
(C) Marine Atlantic
(D) Trans-Canada Highway

29. To which of the following needs do sheltered harbours and acropolis sites mostly relate? ....(29) __________
(A) transportation
(B) resource use
(C) industry
(D) defense

30. What term best describes the shape of the country in the figure below: ....(30) __________
(A) compact
(B) elongated
(C) extended
(D) perforated



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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

WORLD GEOGRAPHY 3202

JUNE 1989

PART II

Value: 70 marks

Time: 2 hours, 20 minutes

GENERAL INSTRUCTIONS

1. Part II consists of essay items only, arranged in three sections with requirements as follows:

   SECTION A — Do any FIVE items — 20%
   SECTION B — Do any FOUR items — 40%
   SECTION C — Do ALL items — 10%

2. Answers are to be written in the answer booklet provided.

3. You may draw diagrams where they can support your answers.

REGULATIONS FOR CANDIDATES

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- Materials required
- Materials not permitted
- Use of handheld calculator
- Use of pen or pencil
- Communication and movement during the examination
- Punctuality
- Leaving the room
- Use of answer booklets
- Completion of required information
- Use of unauthorized means, and penalties

Value

SECTION A

Do any **FIVE** items from this section. Total value: 20%.

4 1. Briefly define any **TWO** of the following pairs of terms:

(a) weather/climate
(b) land breeze/sea breeze
(c) immigration/emigration
(d) lithosphere/biosphere

4 2. Select **TWO** of the following and show how each affects the climate of an area:

(a) ocean currents
(b) prevailing winds
(c) elevation
(d) latitude

4 3. Select any **TWO** statements given below and briefly explain why each is TRUE or FALSE.

(a) The tundra is a very fragile ecosystem.
(b) Industries should always be located near their markets.
(c) A country's economic well-being depends on its size.
(d) All major transportation routes converge at city locations.

4 4. Name **TWO** methods used to measure 'standard of living'. What are the limitations of each?

4 5. Do **ONE** part only — either (a) or (b).

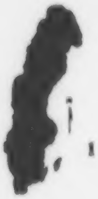
(a) Briefly describe how a recyclable resource is different from a renewable resource.

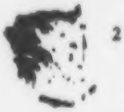
(b) What is the relationship between orbiting satellites and resource management?

4 6. Transportation costs are determined by **TWO** components. Identify these components and indicate how they affect the relative advantage of transportation by road and by rail.

4 7. Do **ONE** part only — either (a) or (b).

(a) Which of the five shapes of countries illustrated below do you think is probably best suited for the development of a linkage network to connect all parts of a country? Explain.





(b) Explain how a natural boundary can often greatly affect the cultural development of a country.

SECTION B

Section B contains eight items in all, one for each of eight world regions. Select and do the items as directed on any **FOUR** of these regions. Total value: 40%.

8. **NORTH AMERICA**

4 (a) Make a comparison of the similarities and differences between Canada and the United States using one of the following: landforms; economic activities.

Value

6 (b) Do **ONE** part only — either (i) or (ii).

(i) Select two immigrant groups and describe the push and pull factors that caused them to come to North America.

(ii) Why has industry been attracted to the St. Lawrence-Great Lakes Region?

9. **LATIN AMERICA**

4 (a) Indicate why **TWO** of the following are true.

(i) Latin America has one of the fastest growing populations in the world.

(ii) The Caribbean region is described as being "ethnically diverse".

(iii) Mexico has still to overcome its agricultural problems.

6 (b) What appears to be the most important push and pull factors that account for rural-to-urban migration in Andean South America?

10. **EUROPE**

4 (a) Do **ONE** part only — either (i) or (ii).

(i) Describe how the governments and economies of Eastern Europe differ from those of Western Europe.

(ii) Explain how the countries of the Alps have developed a strong economy in spite of relatively limited resources.

6 (b) What are the THREE ways in which the ocean assumes major economic importance for Northern Europe and the British Isles?

11. **THE SOVIET UNION**

4 (a) Do **ONE** part only — either (i) or (ii).

(i) Various geographical factors (size, landforms, river networks, etc.) have slowed the development of effective linkage systems between Western U.S.S.R. and Eastern Siberia. Explain.

(ii) Discuss the intervening obstacles that the Soviet government has imposed to reduce rural-urban migration.

6 (b) Do **TWO** only of parts (i) to (iii).

(i) Describe THREE of the ways in which the Canadian and Soviet populations are similar.

(ii) What THREE factors have helped the Ukraine become the breadbasket of the U.S.S.R.?

(iii) What factors have helped the development of the CIR (Central Industrial Region) around Moscow?

12. **ASIA**

4 (a) Japan's industrial growth has been a miracle of economic development. Describe the factors that have resulted in such a phenomenal growth.

6 (b) Do **TWO** only of parts (i) to (iii).

(i) What TWO main factors make Asia's ecosystems and climate different?

(ii) What are the TWO main economic activities in Manchuria?

(iii) Why did industry develop in Manchuria more than anywhwere else in China?

Value

13. **AFRICA SOUTH OF THE SAHARA**

4 (a) Do **ONE** part only — either (i) or (ii).

(i) What are the major features of South Africa's apartheid policy?

(ii) What factors make it expensive to build linkage networks in sub-Saharan Africa?

6 (b) Do **ONE** part only — either (i) or (ii).

(i) What are the advantages and disadvantages of East Africa's history of dominance by colonial powers?

(ii) Why is Namibia the least-developed country in southern Africa?

14. **NORTH AFRICA AND THE MIDDLE EAST**

4 (a) Explain how the newly found oil wealth is a mixed blessing for the Middle East.

6 (b) Show how TWO of the following are true:

(i) The daily temperature range in desert areas is very great.

(ii) Farming improvements in the Middle East have been held back by land ownership practices.

(iii) The "fertile crescent" is the "cradle of civilization".

15. **SOUTH PACIFIC REGIONS**

4 (a) Do **TWO** only of parts (i) to (iii).

(i) Describe how Australia's agriculture is greatly affected by its ecosystems.

(ii) Describe the TWO ways in which the South Pacific Islands were formed.

(iii) Why has the South Pacific been of great value to outside countries?

6 (b) The westernization of the South Pacific Islands has created major problems for the islanders. Discuss THREE such problems.

SECTION C

Read the following case study and do **ALL** of the items following it. Total value: 10%.

Ford's Oakville Assembly Plant

> Oakville, located midway between Toronto and Hamilton on the shores of Lake Ontario, saw the start of construction of a Ford car assembly plant in 1951. This part of Ontario has one of the highest population densities in Canada, giving it strong market potential. The short distances between Oakville and this market area helps keep down the cost of shipping cars to Ford dealers and maintaining them after sale. Also, Oakville's location places it near a large workforce with the wide range of skills needed in the automotive industry.
>
> The Oakville plant has access to transportation systems that link it to all of Southwestern Ontario, points east and west across Canada, and south to the United States. These include a multi-tract rail line, the Queen Elizabeth Way to the United States, and the MacDonald-Cartier Freeway which is the Ontario portion of the Trans Canada Highway. This freeway also gives Oakville ready access to airports in Toronto.
>
> The plant's site is composed mostly of materials deposited by receding glaciers. Due to the heavy concentration of stones and clay, the land wasn't highly suited to farming. This compact material combined with the underlying layers of limestone and shale form a foundation that can support the weight of car manufacturing equipment. The site's slope gives it good drainage so that expensive underground drainage systems aren't needed. The size of the site provided ample space for expanding the plant, railway sidings and parking lots.

Value

The Ford automotive plant uses steam generated by coal and oil to provide the energy needed for heating and manufacturing. Electricity is obtained from the provincial power grid at reasonable rates. Most of the oil and natural gas used in the plant comes by pipeline from the Alberta fields. Most of the coal needed for steam generation is supplied by the Appalachian region of the United States. The huge amounts of water needed by the plant are obtained from Lake Ontario, a short distance away. This lake also serves as a disposal area for treated waste materials from the plant.

The operations at Oakville are highly integrated with those of other companies throughout southwestern Ontario and the Great Lakes region of the United States. Hamilton, a short distance away, provides steel; other centres supply rubber, glass and textiles. The Oakville plant produces some components such as engines and transmissions, but other finished products are obtained from other manufacturing firms that are relatively nearby. For example, seatbelts come from Midland, foam seat pads from Port Hope, tires from Kitchener, antifreeze from Sarnia, doors from Buffalo, and so on.

This relationship between the Oakville operation and companies elsewhere was made possible in 1965 by an auto pact enacted by the Canadian and U.S. governments. One of the articles of the agreement allows auto parts and vehicles to be moved duty-free in both directions across the Canada-U.S. border. Government action of this nature, along with tax incentives, has helped the Oakville plant to gain its fair share of the North American auto industry.

6 16. (a) Such factors as land, markets, labour, capital, transportation, and government policy determine whether a certain site is a suitable location for a factory. Select THREE and describe how they make Oakville a good location for Ford's auto-assembly plant.

4 (b) Define agglomerating tendency. Give several examples to show that Oakville is a good example of the agglomerating tendency.

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

WORLD PROBLEMS 3204

JUNE 1989

Value: 100 marks

Time: 3 hours

GENERAL INSTRUCTIONS

1. The examination consists of essay items only arranged in three sections with requirements as follows:

   SECTION A — Do any FIVE complete items — 50%
   SECTION B — Do any TWO complete items — 30%
   SECTION C — Do any TWO complete items — 20%

2. Answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

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— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

Value

SECTION A

Do any **FIVE** items from this section. Total value: 50%.

4 1. (a) Identify **four** reasons why there is rapid population growth in the developing Third World.

3 (b) Suggest **three** steps that might be taken to reduce the high birth rate in the Third World.

3 (c) Name **three** factors that have contributed to the declining birth rate in many countries of the industrialized world.

3 2. (a) State **three** reasons for insufficient food production in many parts of the world.

4 (b) Give **two** practical solutions which might ease the problem of inadequate food production.

3 (c) Suggest **three** problems which prevent countries with food shortages from obtaining the surpluses of those countries which are food rich.

3. You are the president of a large multinational corporation and you are considering setting up operations in country X, a typical Third World country.

3 (a) What are **three** factors about countries such as this that might entice you to invest there?

2 (b) What do you consider **two** serious drawbacks?

5 (c) What concessions do you expect the government of country X to make to encourage you to start a business there?

4 4. (a) What are **two** disadvantages of using fossil fuels to generate energy?

4 (b) What are the advantages and disadvantages of relying more and more on nuclear energy?

2 (c) What advantages would solar power have over the two sources mentioned above?

4 5. (a) Identify **four** ways in which you, as a youth in Newfoundland, have a quality of life superior to that of the average person of your age in a typical Third World country.

6 (b) Name **three** factors that tend to have a negative effect on the quality of life enjoyed by people living in large urban centres in First World countries.

6 6. (a) Explain **three** reasons why people might leave their homelands and migrate to other countries.

4 (b) State **four** ways that Canada has benefitted, and continues to benefit, from immigration.

7. One of the essential differences between the First World and the Second World is in the way they deal with economic matters.

6 (a) Identify and explain **three** specific differences between the ways in which they deal with economic matters.

4 (b) Name one advantage and one disadvantage of the economic system in **each** 'world'.

SECTION B

Do item number 8 and any one other item from this section — **TWO** items in all. Total value: 30%.

8. Read the selection below and do **ALL** parts of this item following it.

Genesis in Reverse

> "In the end, there was the Earth, and it was with form and beauty. And man dwelt upon the lands of the Earth, and he said, 'Let us build our dwellings in this land of beauty.' And he built cities and covered the Earth with concrete and steel. And the meadows and the trees were gone and man said, 'It is good.'

Value

"On the second day, man looked upon the waters of the Earth and man said, 'Let us put our waste in our waters and the dirt will be washed away.' And man did. And the waters, the rivers and the lakes, became polluted and foul in their colour and smell. And man said, 'It is good.'

"On the third day, man looked upon the forests of the Earth and saw that they were beautiful. And man said, 'Let us cut the timber for our homes and grind the wood for our use.' And man did. And the lands became barren and the trees were gone. And man said, 'It is good.'

"On the fourth day, man saw that the animals were in abundance and ran in the fields and played in the sun. And man said, 'Let us cage these animals for our amusement and kill them for our sport.' And man did. And there were no animals on the face of the earth. And man said, 'It is good.'

"On the fifth day, man breathed the air of the Earth. And man said, 'Let us dispose of our wastes in the air for the winds shall blow them away.' And man did. And the air became heavy with smoke and dust. The sun could not be seen and the winters became long and cold. And man said, 'It is good.'

"On the sixth day, man saw himself: and seeing the many peoples, their languages, their cultures and their colours, he feared and hated. And man said, 'Let us build great machines and bombs'; and the Earth was fired with the rage of great wars. And man said, 'It is good.'

"On the seventh day, man rested from his labours and the Earth was still, for man no longer dwelt upon the Earth. And it was good."

From the CANADIAN CHURCHMAN

---

3 (a) What human values are condemned in "Genesis in Reverse"?

7 (b) To what extent is this a true portrayal of the world in the late 20th century? Use specific references, examples, illustrations, etc., to back up your point of view.

5 (c) In a paragraph or two, suggest what must be done to prevent the 'seventh day'.

15 9. Much of the developed world is reaching a stage where an aging population and a declining birth rate are becoming serious concerns. In a well organized essay, discuss what social, economic and political effects this will have on these societies.

15 10. Charles Dickens wrote in the 19th century: "These are the best of times; these are the worst of times." Based on your study of world problems this year, do you think Dickens' statement applies to the world of the 1980's? Be sure to use specific references to back up your point of view.

15 11. In recent years international terrorism has become a problem of crisis porportions. Write an essay in which you examine the root causes of this grave international problem, and suggest what can be done to effectively fight it.

SECTION C

Current Affairs

Do any **TWO** items from this section. Total value: 20%.

10 12. A curent affairs magazine declared that last year (1988) may be remembered as the year when 'peace broke out'. Explain why you agree or disagree with this statement. Be sure to provide specific references to support your position.

13. The Middle East continues to be one of the world's most volatile areas, as is particularly illustrated by the Palestinian issue.

2 (a) What is the basic cause of the Intifada or 'slingshot war' on the West Bank and in Gaza?

2 (b) How has Israel reacted to the uprisings?

Value

2 (c) What **two** important changes of policy did the Palestinian Liberation Organization adopt to gain international support?

4 (d) Why is the Palestinian problem considered to be an international one? Be specific.

14. The Olympic Games in Seoul, South Korea, dominated the headlines during September of 1988, and drug usage by athletes emerged as a major world issue.

2 (a) Explain why the use of drugs is an issue of major concern.

2 (b) Why did this issue affect Canadians so intensely?

2 (c) There are a number of theories as to who is to blame for the drug problem. Name **two.**

4 (d) Do you believe the Olympic Games promote better relations between countries? Explain your point of view with specific references to the 1988 Olympics, or any previous Olympic Games.

10 15. Relations between Canada and the international community have always been important to Canadians. Giving specific details, briefly explain why our relations with **two** of the following countries were a concern in 1988.

(a) the United States

(b) South Africa

(c) France

16. Recently, the publication of the book **The Satanic Verses** received strong international reactions.

2 (a) Briefly explain the controversy behind this book.

4 (b) Why do you think a majority of the world's Muslims have reacted as they did to this book?

4 (c) Suggest a good solution to this controversy, and give arguments to support your suggestion.

SECTION IV
NOVEMBER 1989 EXAMINATION PAPERS

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

ART AND DESIGN 3200

NOVEMBER 1989

Value: 100 marks Time: 3 hours

Examination Number ______________

GENERAL INSTRUCTIONS

1. The examination consists of objective and essay items, arranged in five sections as follows, and candidates are required to do **ALL** sections as directed in each:

   SECTION A — Design — 20%
   SECTION B — Drawing and Painting — 20%
   SECTION C — Other People's Art — 20%
   SECTION D — Media — 20%
   SECTION E — Optional Units — 20%

2. Note that some parts of the examination will require reference to art plates contained in the Booklet of Arts Plates provided. Specific references will be indicated at the beginning of sections, where applicable.

3. Answers are to be written in this booklet. Do not use allotted answer spaces for rough drafts which you may wish to discard.

4. Be sure to write your Examination Number in the space above.

REGULATIONS FOR CANDIDATES

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— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

Value

SECTION A

Design

Do the **ONE** complete item in this section. Total value: 20%.

Reference: Plates 1-20

20 1. Choose the correct plate to match each of the following statements, and write the number of your choice in the blank at the right. Do not use the same plate more than once.

(a) An example of the typical flat, hard-edged style of many Pop artists. .... (a) ________

(b) An example of compartmentalized relief assemblage. .... (b) ________

(c) The changing grid formation creates an illusion of space. .... (c) ________

(d) This Baroque sculpture uses texture and gesture to create strong emotion. .... (d) ________

(e) This stone age painting uses overlapping and position within the frame to describe depth. .... (e) ________

(f) This painting uses repetition to help express the alienation of modern society. .... (f) ________

(g) An example of relief carving. .... (g) ________

(h) An example of natural and man-made objects reduced to geometric forms and shapes. .... (h) ________

(i) An example of caricature. .... (i) ________

(j) A surreal combination of realistic images. .... (j) ________

(k) An expansion of interior space through the use of vertical lines. .... (k) ________

(l) A two-value graphic symbol. .... (l) ________

(m) An example of modular architecture. .... (m) ________

(n) An example of three-dimensional minimalist sculpture. .... (n) ________

(o) An example of one-point perspective. .... (o) ________

(p) A composition made entirely of random organic line. .... (p) ________

(q) An example of open, asymmetrically balanced sculpture. .... (q) ________

(r) Movement is created in this artwork through the use of repetition and blurring of image. .... (r) ________

(s) The use of line in this woodcut print adds to the psychological intensity. .... (s) ________

(t) The soft contours in this two-figure work contrast its emotional impact. .... (t) ________

Value

SECTION B

Drawing and Painting

Do **ALL** items in this section. Total value: 20%.

9 2. Define any **NINE** of the following terms briefly and accurately:

(a) wash ______________________________

(b) afterimage ______________________________

(c) collage ______________________________

(d) opaque ______________________________

(e) pigment ______________________________

(f) stipple ______________________________

(g) foreshortening ______________________________

(h) scale ______________________________

(i) unity ______________________________

(j) thumbnail sketch ______________________________

(k) still life ______________________________

6 3. Briefly define any **THREE** of the following terms or styles in painting by naming one artist to represent each and one major defining characteristic.

(a) **Baroque** - Artist: ______________________________

Characteristic: ______________________________

(b) **Cubism** - Artist: ______________________________

Characteristic: ______________________________

Value

(c) **Op Art** - Artist: ____________________

Characteristic: ____________________

____

____

(d) **Fauvism** - Artist: ____________________

Characteristic: ____________________

____

____

(e) **Romanticism** - Artist: ____________________

Characteristic: ____________________

____

____

5 4. Do **ALL** parts of this item by writing the letter of the correct response for each in the blank at the right.

(a) What type of colour is produced when you mix complementary colours? (a) _____

(A) secondary
(B) tertiary
(C) pure
(D) local

(b) Which of the following techniques is used to achieve value gradation? (b) _____

(A) fresco
(B) encaustic
(C) hatching
(D) resist

(c) Which of the following, when placed side by side, will produce visual vibration? .... (c) _____

(A) objective colours
(B) subjective colours
(C) neutrals
(D) complementary colours

(d) Which of the following gives the viewer a clue for depth perception? (d) _____

(A) style
(B) size
(C) matte finish
(D) repetition

(e) Which term best refers to a work containing similar colours that would be found next to each other on the colour wheel? .... (e) _____

(A) monochromatic
(B) polychromatic
(C) achromatic
(D) analogous

Value

SECTION C

Other People's Art

Do **ALL** items in this section. Total value: 20%.

Reference: Plates 21-27

10 5. Identify any **FIVE** of the plates numbered 21-27 by giving for each the name of the artist and the name of the style or movement to which the artist belongs.

	Plate No.	Artist	Style or Movement
(a)	21	____________	____________
(b)	22	____________	____________
(c)	23	____________	____________
(d)	24	____________	____________
(e)	25	____________	____________
(f)	26	____________	____________
(g)	27	____________	____________

10. 6. Describe how the artist used materials and/or design elements to achieve the quality indicated for each of any **FIVE** of the following plates.

(a) Plate 21 — Central Image ____________________

____

____

(b) Plate 22 — Unity ____________________

____

____

(c) Plate 23 — Balance ____________________

____

____

(d) Plate 24 — Calmness ____________________

____

____

(e) Plate 25 — Movement ____________________

____

____

(f) Plate 26 — Depth ____________________

____

____

(g) Plate 27 — Variety ____________________

____

____

SECTION D

Media

Value

Do any **TWO** items in this section. Total value: 20%.

Reference: Plates 28 and 29

10 7. Plates 28 and 29 represent advertisements for American companies. Compare the two advertisements in terms of the following:

(1) message
(2) how content and composition create and reinforce the message
(3) artistic merit

10 8. Plan the design for a banner for **ONE** of the following organizations/events. Discuss content, composition, symbolism, colour and effective letter style and size in your answer. You may use a sketch if you wish.

(a) Anti-Smokers' Rally
(b) Anti-Nuclear Protest
(c) Citizens for Recycling Waste Association
(d) Alcoholics Anonymous

Value

10 9. Choose one television program with which you are familiar from one category in each of the following two lists:

LIST A	**LIST B**
Situation Comedy	News Program
Soap Opera	Nature Program
Detective Show	Talk Show

Compare the two programs in terms of target audience, content, visual presentation, and format.

SECTION E

Optional Units

Section E contains nine items in all — one item for each of the optional units offered in this course. Select and do any **TWO** complete items. Write your answers in the spaces that follow the last item. Be sure to number each response correctly. Total value: 20%.

Value

10. **CERAMICS AND POTTERY**

4 (a) Define any **FOUR** of the following terms:

(i) greenware
(ii) sgraffito
(iii) coil
(iv) wedging
(v) grog
(vi) glaze

6 (b) Briefly describe the firing process for an earthenware pot from the time it is taken off the wheel.

11. **TEXTILES AND FABRIC DESIGN**

4 (a) Define any **FOUR** of the following terms:

(i) tapestry
(ii) warp
(iii) resist
(iv) appliqué
(v) loom
(vi) macramé

6 (b) Briefly describe two methods of creating a design on a piece of neutral fabric.

12. **PHOTOGRAPHY**

4 (a) Define any **FOUR** of the following:

(i) ASA
(ii) depth of field
(iii) fixer
(iv) camera obscura
(v) photogram
(vi) enlarger

6 (b) Your camera tells you that an exposure is possible at f8 and a shutter speed of 1/30 s. However your subject is moving and might blur at that ss. Explain what you would do, making sure you cover all compensations necessary to ensure proper exposure.

13. **FILM AND FILM MAKING**

4 (a) Define any **FOUR** of the following:

(i) boom
(ii) edit
(iii) time lapse film
(iv) panning
(v) continuity
(vi) credits

6 (b) You are making a promotional film about your school art exhibition. Briefly dscribe the following:

(i) crew needed for the job
(ii) content
(iii) light and sound consideration

10 14. **CRAFTS AND CRAFTSPEOPLE**

Choose **one** craft you have studied, and describe it in full detail under the following headings:

(1) name of craft and brief history
(2) materials and equipment needed
(3) brief procedure for producing product
(4) marketing

Value

10 15. **NEWFOUNDLAND ART AND ARTISTS**

Choose **two** Newfoundland artists and compare their work in terms of the following:

(1) medium
(2) subject matter
(3) style and technique
(4) environmental influence

10 16. **APPLIED DESIGN**

A Newfoundland electronics company wants to manufacture an audio cassette player that will appeal to most high school students. Discuss how they should consider the following when designing this product. You may use a sketch if you wish.

(1) size and shape
(2) design of controls
(3) functions to include
(4) marketing

17. **THEATRE ARTS**

4 (a) Define any **FOUR** of the following:

(i) upstaging
(ii) wings
(iii) gel
(iv) downstage right
(v) period costume
(vi) warm-up

3 (b) Discuss how improvisation can aid in both performance and personal development.

3 (c) Briefly describe how lighting and costume can help create one particular mood.

10 18. **ENVIRONMENTAL ARTS**

Explain how you would design an expansion of a small fishing town, if a major concern was the preservation of the original town centre, the harbour and its architecture. Be sure to discuss traffic flow, access to public buildings, residential concerns, etc. You may use a sketch if you wish.

Response for Item # ________

Response for Item # ______

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

ART AND DESIGN 3200

NOVEMBER 1989

ARTS PLATE BOOKLET

This booklet is to be distributed to candidates together with the Art and Design 3200 examination paper before the start of the examination.

Candidates will be directed in individual items to refer to the Art Plates contained in this booklet. Plates are numbered from 1 to 29.

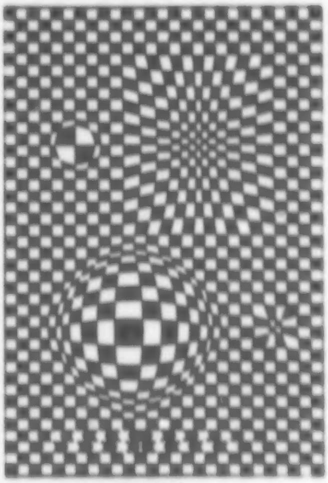
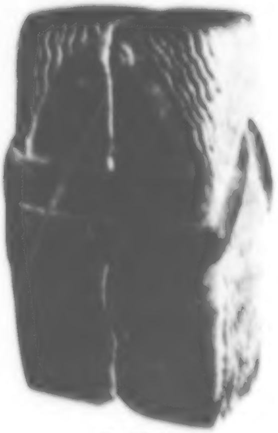


PLATE 1



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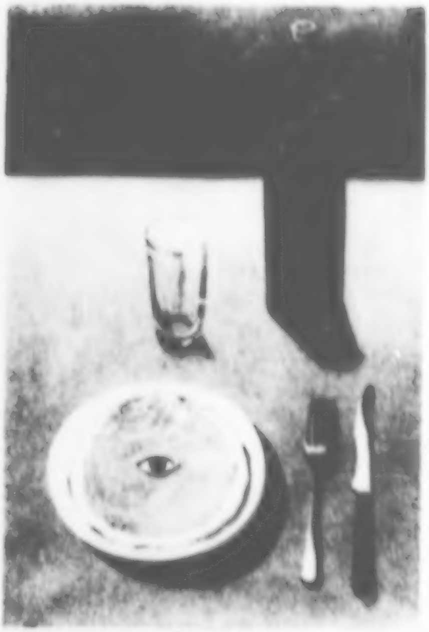

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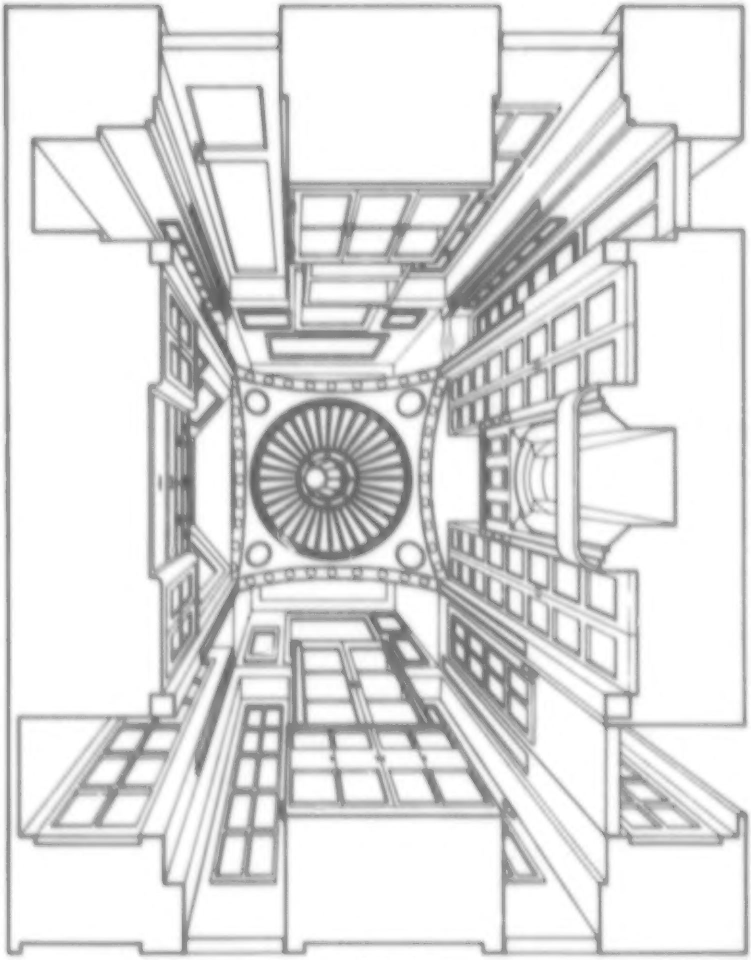

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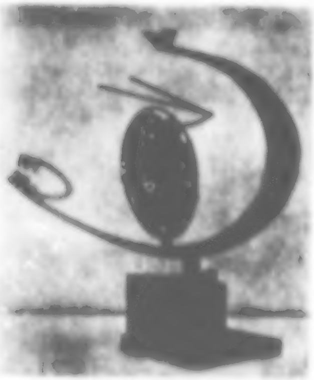

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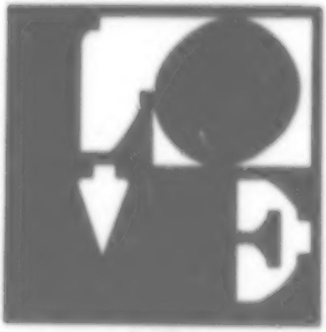


PLATE 6

PLATE 7

PLATE 8

PLATE 9

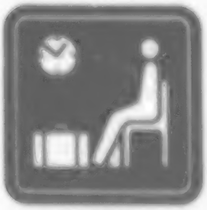
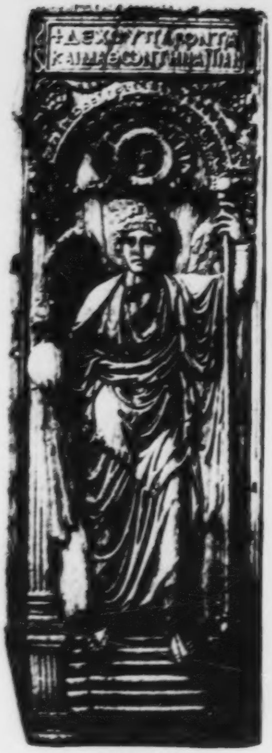


PLATE 10

PLATE 11



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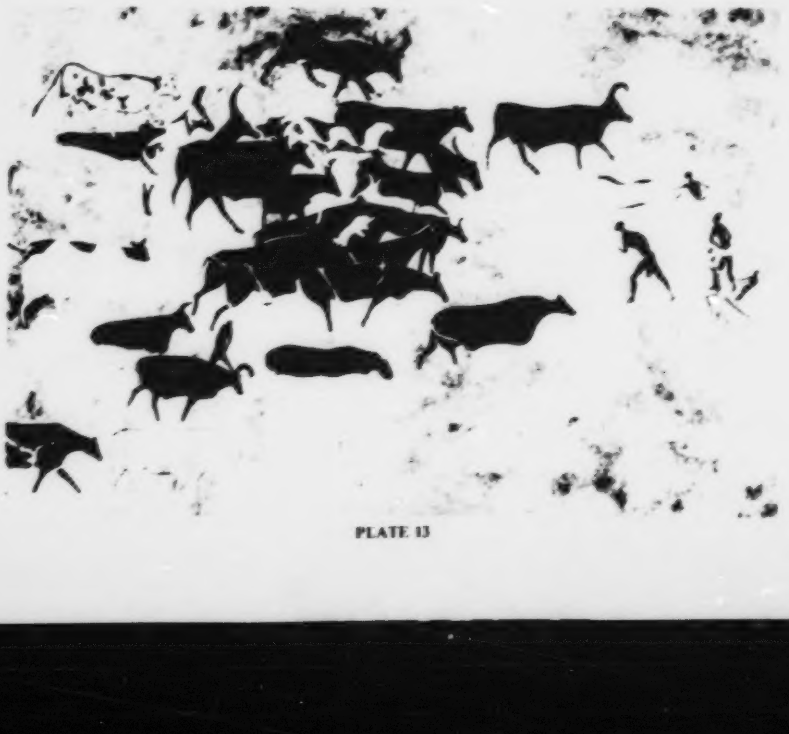

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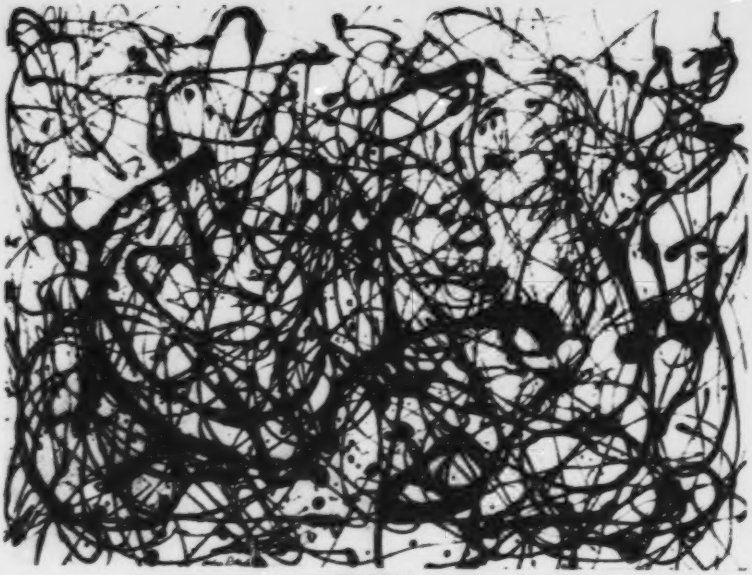

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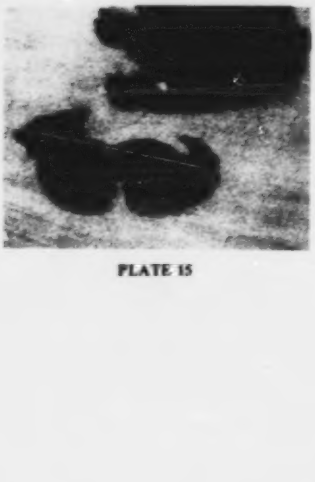

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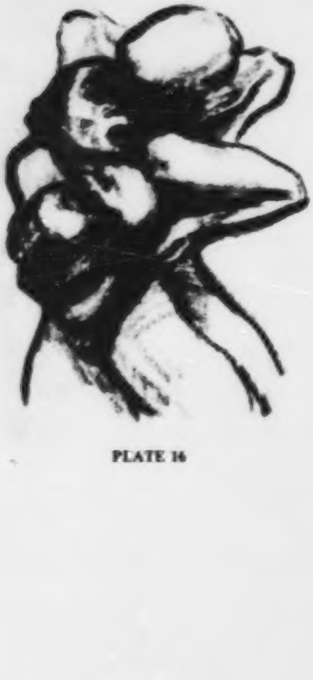

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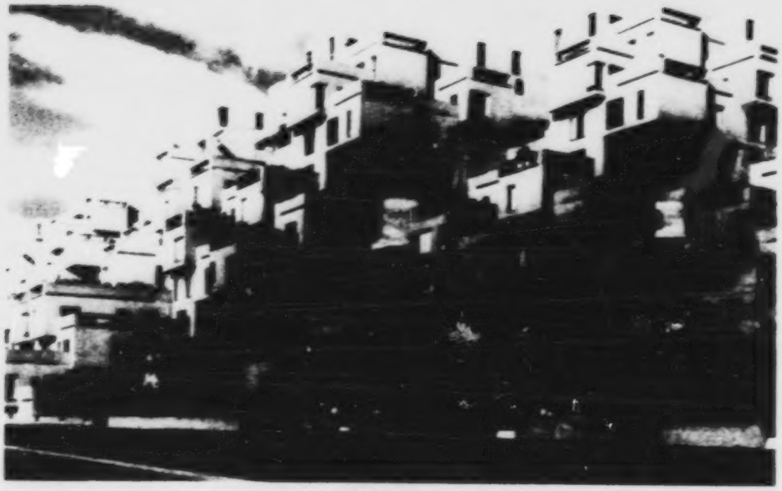

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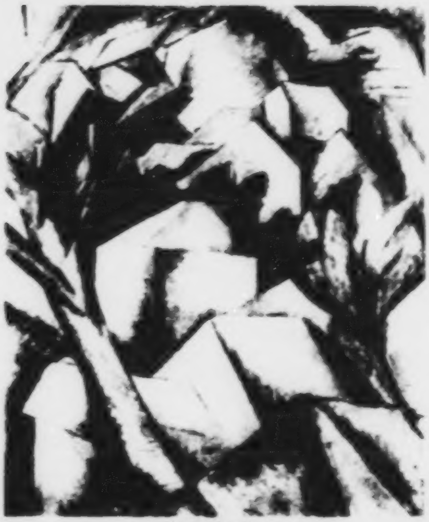

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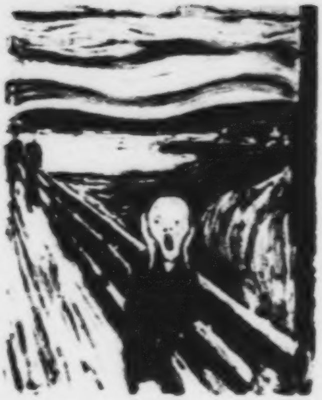

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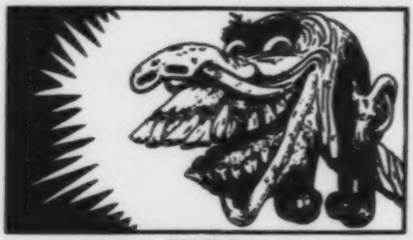

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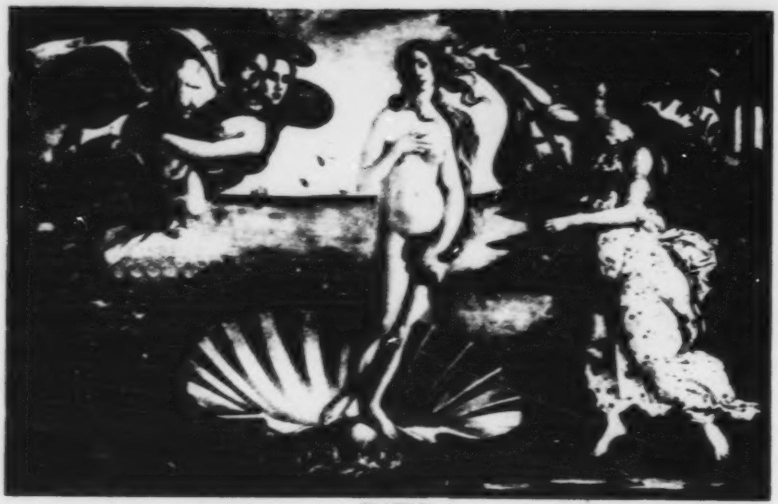

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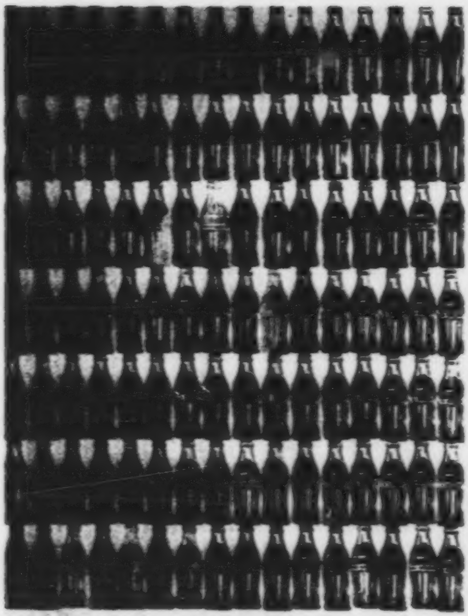

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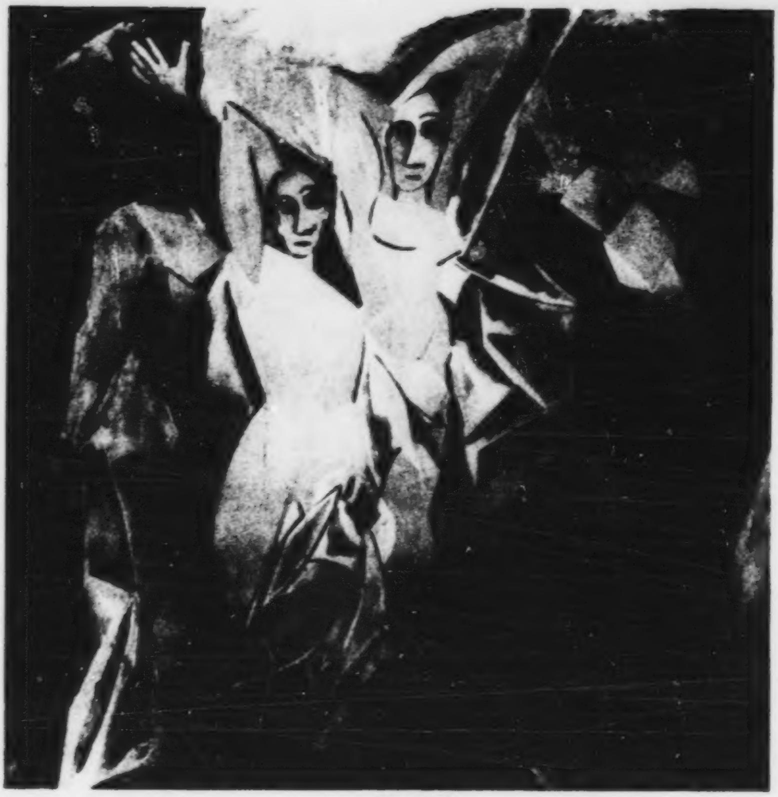

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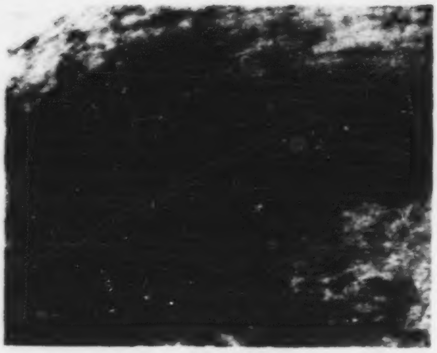
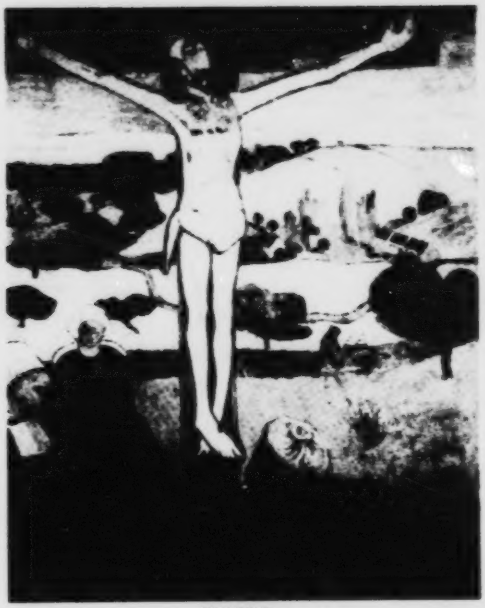


PLATE 24

PLATE 25



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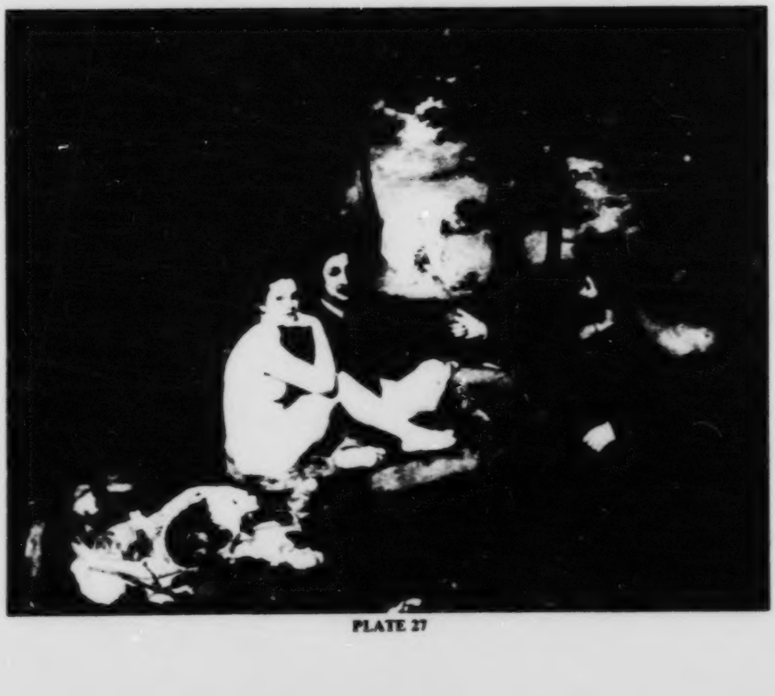

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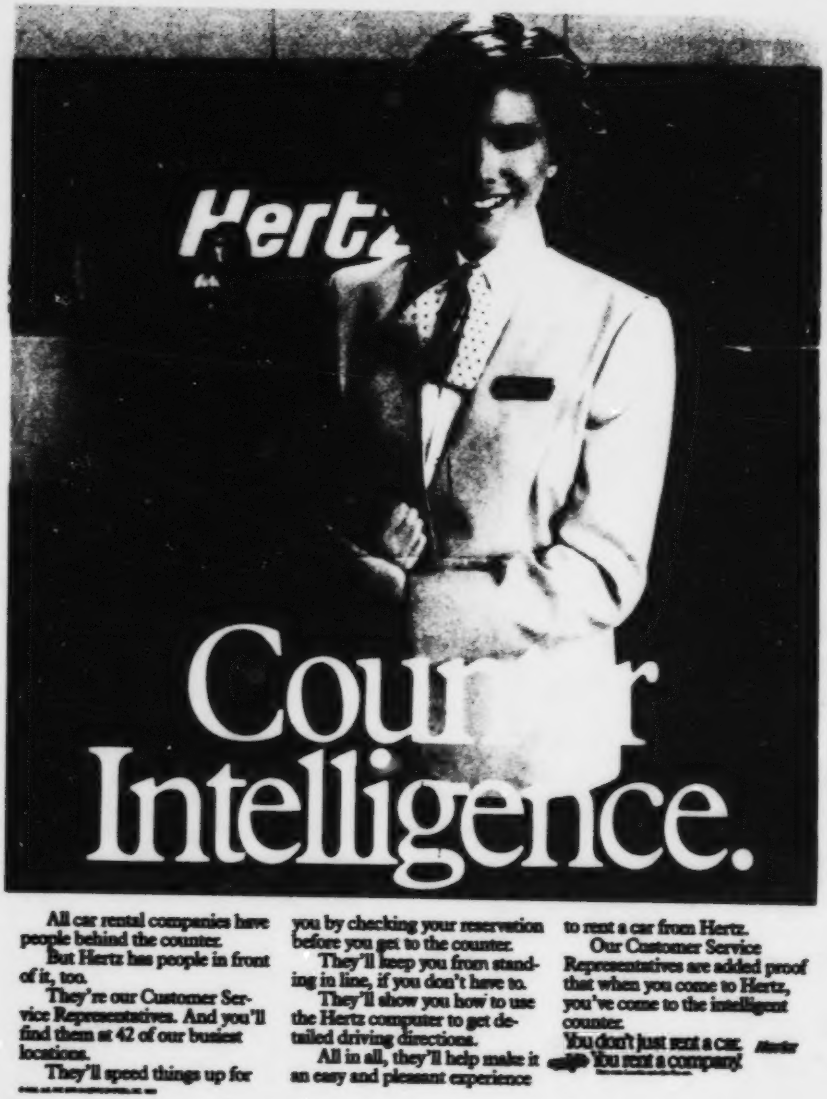

All car rental companies have people behind the counter.

But Hertz has people in front of it, too.

They're our Customer Service Representatives. And you'll find them at 42 of our busiest locations.

They'll speed things up for you by checking your reservation before you get to the counter.

They'll keep you from standing in line, if you don't have to.

They'll show you how to use the Hertz computer to get detailed driving directions.

All in all, they'll help make it an easy and pleasant experience to rent a car from Hertz.

Our Customer Service Representatives are added proof that when you come to Hertz, you've come to the intelligent counter.

You don't just rent a car. You rent a company!

PLATE 28

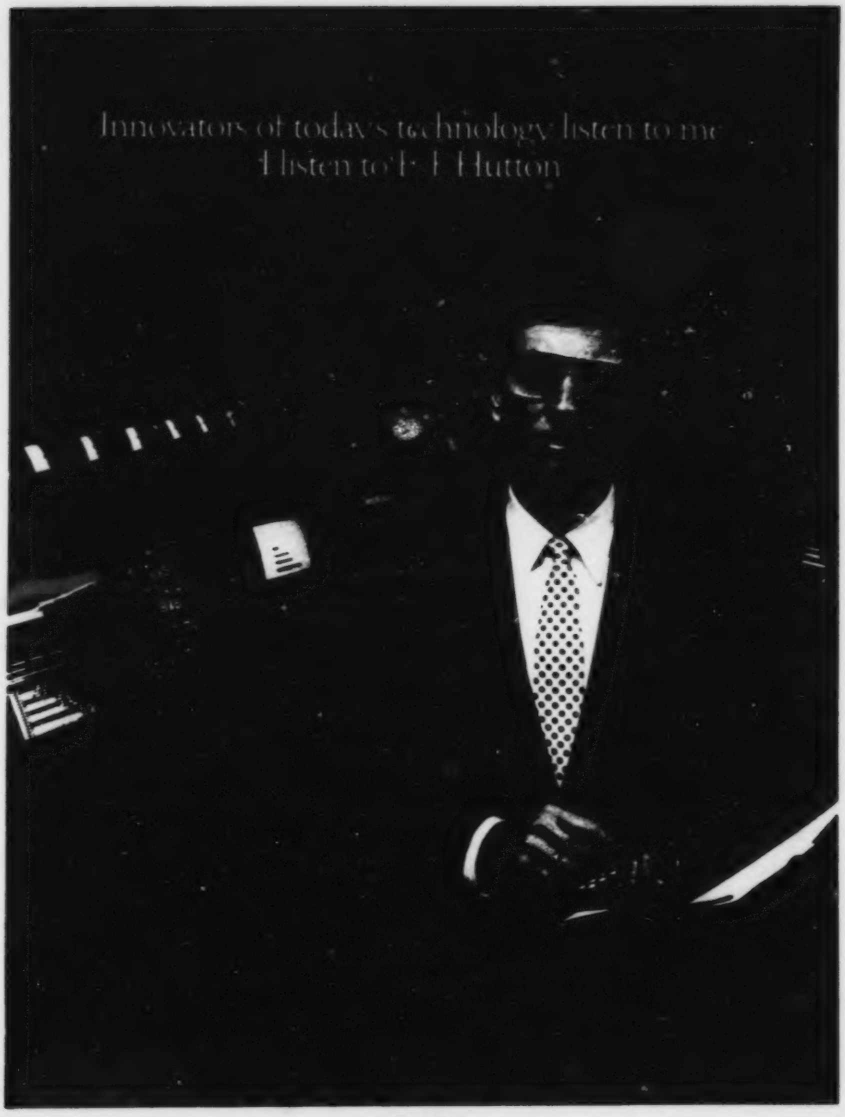
Innovators of today's technology listen to me.
I listen to E. F. Hutton.

PLATE 29

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

ART HISTORY 3202

NOVEMBER 1989

Value: 100 marks

Time: 3 hours

Examination Number ____________________

GENERAL INSTRUCTIONS

1. The examination consists of objective and essay items, arranged in five sections as follows, and candidates are required to do **ALL** sections as directed within:

   SECTION A — Visual Media and Design — 35%
   SECTION B — Art Survey — 35%
   SECTION C — Analysis and Comparison — 30%

2. Note that some parts of the examination will require reference to art plates contained in the Booklet of Arts Plates provided. Specific references will be indicated at the beginning of sections or items, where applicable.

3. Answers are to be written in this booklet. Do not use allotted answer spaces for rough drafts which you may wish to discard.

4. Be sure to write your Examination Number in the space above.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the Chief Supervisor prior to the first session, and have been posted for further reference near the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

- Materials required
- Materials not permitted
- Use of handheld calculator
- Use of pen or pencil
- Communication and movement during the examination
- Punctuality
- Leaving the room
- Use of answer booklets
- Completion of required information
- Use of unauthorized means, and penalties

Value

SECTION A

Visual Media and Design

Do **ALL** items in this section as directed in each. Total value: 35%.

10 1. **Reference:** Plates 1-10

Do **ALL** parts of this item by choosing the one correct plate to match each statement and writing the plate number in the blank at the right of the statement. Do not use any plate more than once.

(a) A work in which proportion is exaggerated to create a sense of normality. (a)_______

(b) A photograph which is a good example of asymmetrical balance. . . . . (b)_______

(c) A work in which the major figures are emphasized by their implied forward motion in the area of greatest implied depth . . . . (c)_______

(d) A photograph which demonstrates irony in a found image. . . . . (d)_______

(e) An example of an assemblage from found objects. . . . . (e)_______

(f) A woodcut which uses continuous linear rhythms as part of its composition. . . . . (f)_______

(g) A sculpture of monumental scale for an outdoor setting. . . . . (g)_______

(h) An example of a painting style known as photorealism. . . . . (h)_______

(i) A work that exhibits a brush and wash technique. . . . . (i)_______

(j) An example of figure-ground reversal. . . . . (j)_______

10 2. Write the letter of the correct response for each of the following in the blank at the right.

(a) What is a rigid framework serving as a supporting inner core for clay or other soft modelling material? . . . . (a)_______
(A) armature
(B) assemblage
(C) modelling
(D) format

(b) What is a form whose contour is irregular or broken? . . . . (b)_______
(A) objective
(B) closed
(C) nonobjective
(D) open

(c) What is an art form conceived in the mind of an artist that is sometimes produced in visible form but often presented only as an idea? . . . . (c)_______
(A) expressionism
(B) conceptual art
(C) happening
(D) futurism

(d) Which of these sculptural processes requires the use of a mold? . . . . . (d)_______
(A) modelling
(B) carving
(C) casting
(D) welding

(e) Which of the following terms is **NOT** applicable to the printmaking process? . . . . (e)_______
(A) tusche
(B) drypoint
(C) squeegee
(D) coil

(f) What term means a style of art sanctioned or promoted by an official institution? .... (f)________
(A) counter reformation
(B) academic art
(C) abstract art
(D) iconography

(g) Which paint uses water-soluble gum as the binder and water as the vehicle? (g)________
(A) tempra
(B) acrylic
(C) watercolour
(D) encaustic

(h) What is a distorted representation in which the subject's distinctive features are exaggerated to produce a comic grotesque form? .... (h)________
(A) portrait
(B) cartoon
(C) thumbnail sketch
(D) caricature

(i) What is a glassy coating applied to ceramicware to seal and decorate the surface? .... (i)________
(A) glaze
(B) gouache
(C) tusche
(D) opaque

(j) What is the implied or illusionary space in an artwork as it appears to receed backward from the picture plane? .... (j)________
(A) perspective rendering
(B) actual space
(C) proportion
(D) pictorial space

10 3. Do **ALL** of the following by writing in the blank provided for each the term defined or described by the statement.

(a) A visual image that persists after the initial stimulus is removed .... (a) ________________

(b) A process that involves pouring liquid material, such as metal or clay, into a mold to harden .... (b) ________________

(c) The actual colour of an object without shadows or reflections.. (c) ________________

(d) Thick paint applied to a surface in a heavy manner, having the consistency of a buttery paste .... (d) ________________

(e) A printmaking technique in which stencils are applied to silk stretched across a frame .... (e) ________________

(f) The term that refers to a mechanically produced copy of an original art work .... (f) ________________

(g) A form of sculpture which uses pre-existing objects that contribute their recognized identity to the total content of the new work .... (g) ________________

(h) The size relationship of parts to a whole and to one another (h) ________________

(i) The name of a large oven in which pottery or ceramic ware is fired .... (i)________________

(j) A drawing technique in which one series of lines is laid down across previous lines so that they cross each other ..... (j)________________

Value

5 4. **Briefly define any FIVE of the following terms:**

(a) closed form

(b) non-representational art

(c) neutral colour

(d) loom

(e) facade

(f) balance

(g) collage

SECTION B

Art Survey

Do **ALL** items in this section as directed in each. Total value: 35%.

10 5. **Reference:** Plates 11-22

Identify any **TEN** of the plates numbered 11-22 by giving for each the name of the artist and the name of the style or period to which it belongs.

	Plate No.	Artist	Style or Period
(a)	11		
(b)	12		
(c)	13		
(d)	14		
(e)	15		
(f)	16		
(g)	17		

Value

Plate No.	Artist	Style or Period
(h) 18		
(i) 19		
(j) 20		
(k) 21		
(l) 22		

5 6. **Reference:** Plates 23-27

Write in the blank provided for each the number of the correct plate to match each of the following statements:

(a) The oldest work .... (a)______

(b) The most recent work .... (b)______

(c) An example of Op Art .... (c)______

(d) An example of "action painting" .... (d)______

(e) An example of the harmonious marriage of art and nature .... (e)______

7. Do any **FOUR** of parts (a) to (e).

5 (a) Paul Cezanne is referred to as the "Father of Modern Art". Explain why he is given this title by discussing the different aspects of his painting style. Make reference to specific works to support your answer.

Value

5 (b) Briefly describe the impact that the invention of photography has had upon the media of drawing and painting. In your answer refer to the works of Delacroix and Degas, two artists who were influenced by photography.

5 (c) Printmaking has a number of processes that can be called upon. Briefly describe any **THREE** of the following processes: silkscreen, intaglio, lithography, woodblock, collograph.

Value

5 **(d) Reference: Plates 29-30**

The artworks listed below present visual statements against the socio-political injustices of the times in which they were created. Choose **ONE** of the artworks and discuss how the artist has manipulated the elements and principles of design to heighten the impact as a political statement.

(i) The Third of May, 1808, Goya
(ii) Transnonian Street, Daumier

5 (e) Briefly identify any **TWO** of the following art periods or styles. Be sure to include in your answer the major characteristics of the period or style, the approximate time period, and the name of one artist associated with each period.

(i) Neo-Classicism
(ii) Abstract Expressionism
(iii) Fauvism

Value

SECTION C

Analysis and Comparison

Do **ALL** items in this section as directed in each. Total value: 30%.

8. **Reference:** Plates 30-37

Consider the pairs of artworks indicated below. Compare the works in each of any **THREE** pairs in terms of content and form. Include in your answer the medium used, the relationship of the medium to the meaning of the work, the visual components, and the social and/or political context of the work.

5 (a) Plates 30 and 31

5 (b) Plates 32 and 33

5 (c) Plates 34 and 35

5 (d) Plates 36 and 37

9. **Reference:** Plate 38

Do **ALL** parts of this item in reference to the painting "Ontario Farmhouse", 1903, Carl Schaefer.

5 (a) Identify the important visual elements (elements of design) evident in this painting.

5 (b) Describe the principles of design used by the artist in this work.

Value

5 (c) Describe the mood/atmosphere of this work of art. How has the artist used the elements and principles of design to create this mood/atmosphere?

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

ART HISTORY 3202

NOVEMBER 1989

ARTS PLATE BOOKLET

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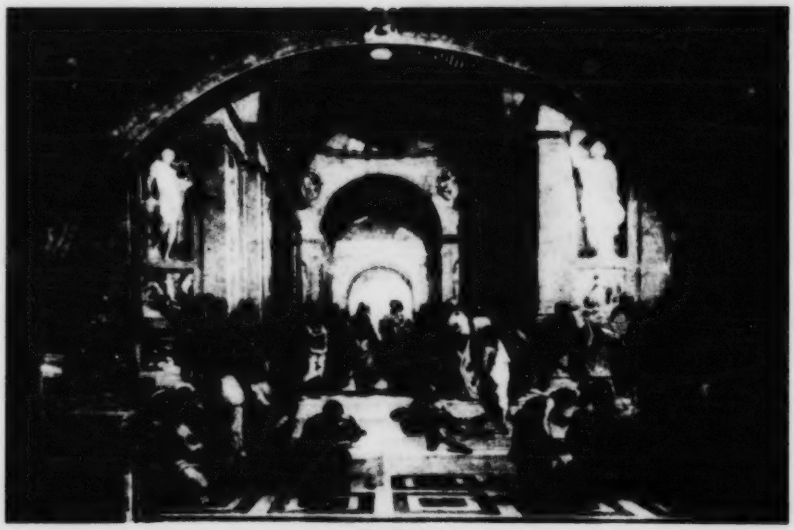

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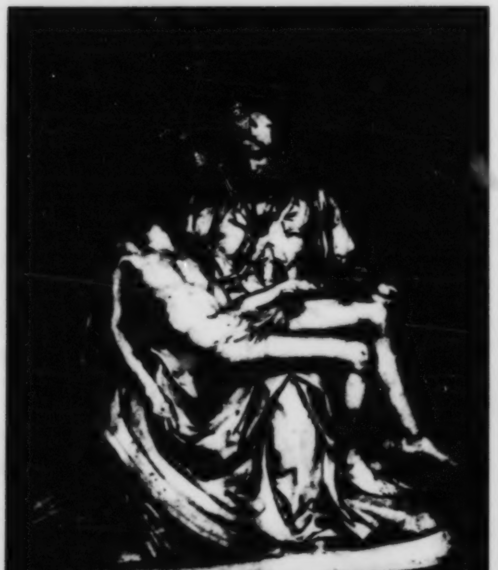

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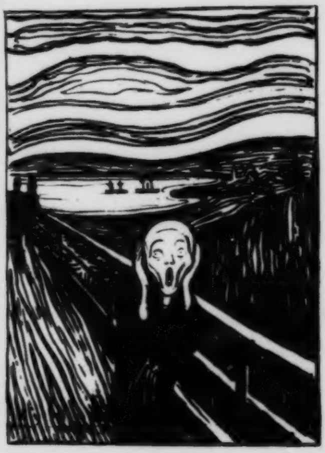


PLATE 3

WORLD'S HIGHEST STANDARD OF LIVING
There's no way like the American Way

PLATE 4

PLATE 5

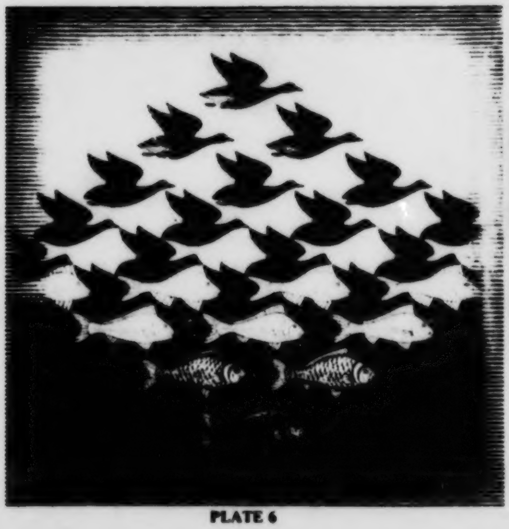


PLATE 6

Your
BANKAMERICARD

PLATE 7

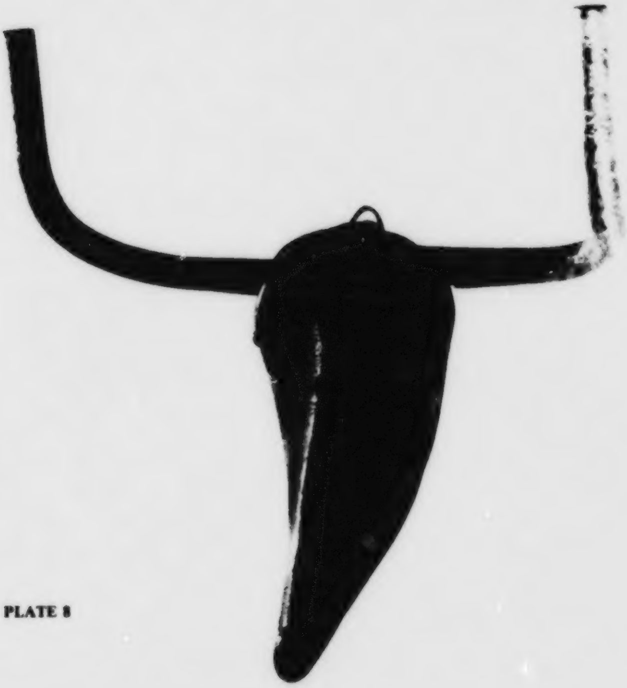


PLATE 8

PLATE 9

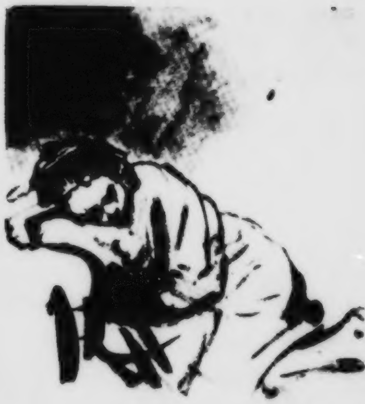


PLATE 10

PLATE 11

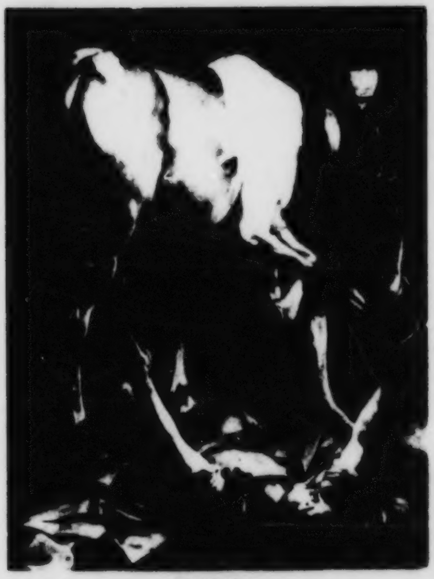
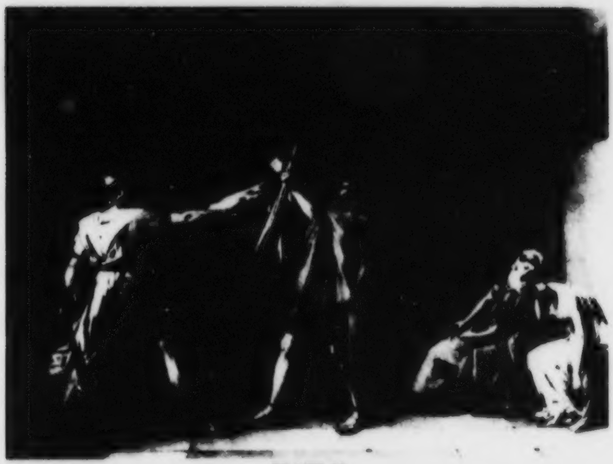


PLATE 12

PLATE 13

PLATE 14



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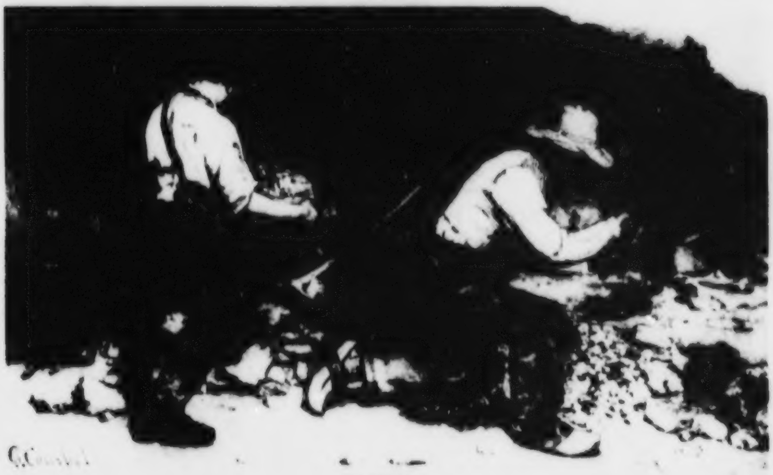
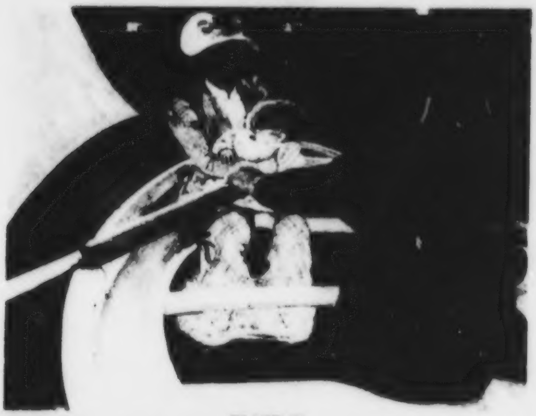


PLATE 16

PLATE 17

PLATE 18



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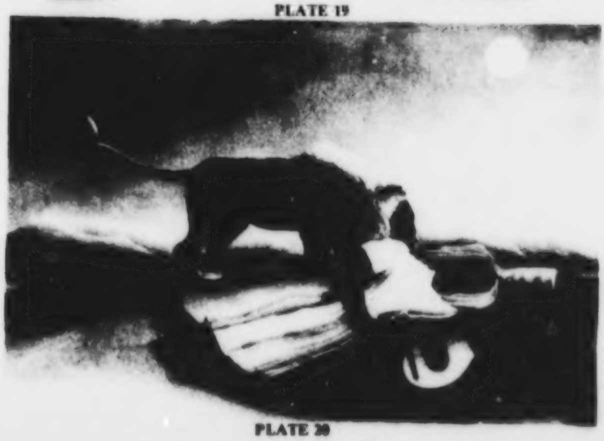

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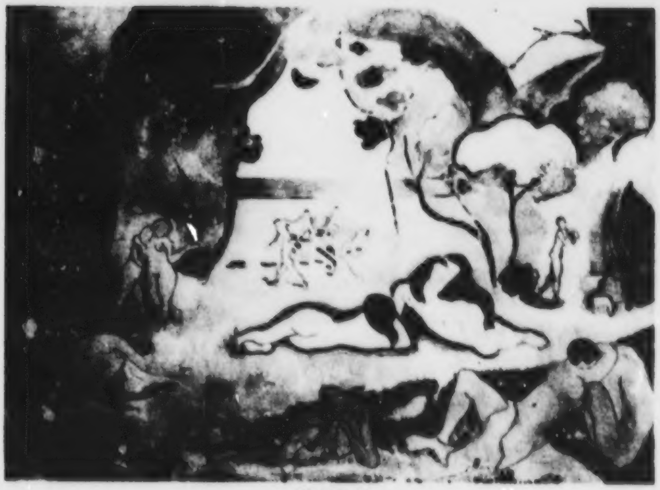

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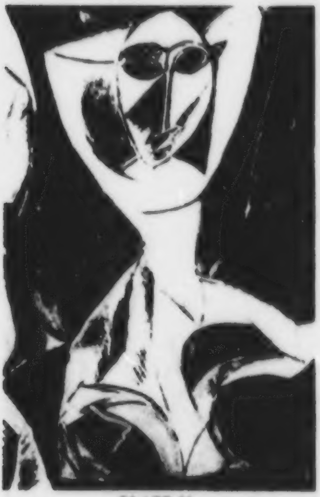

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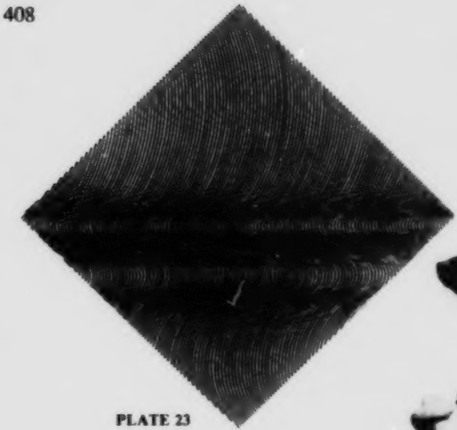

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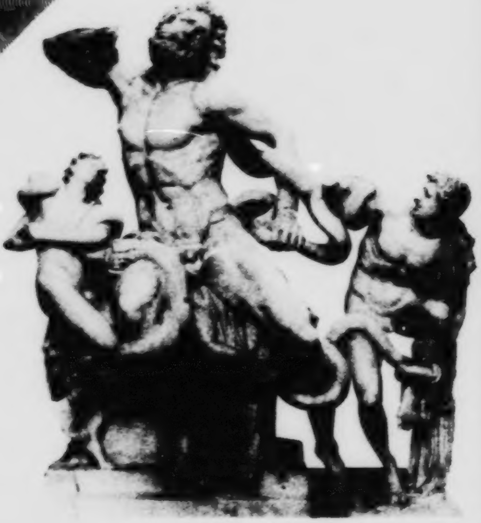
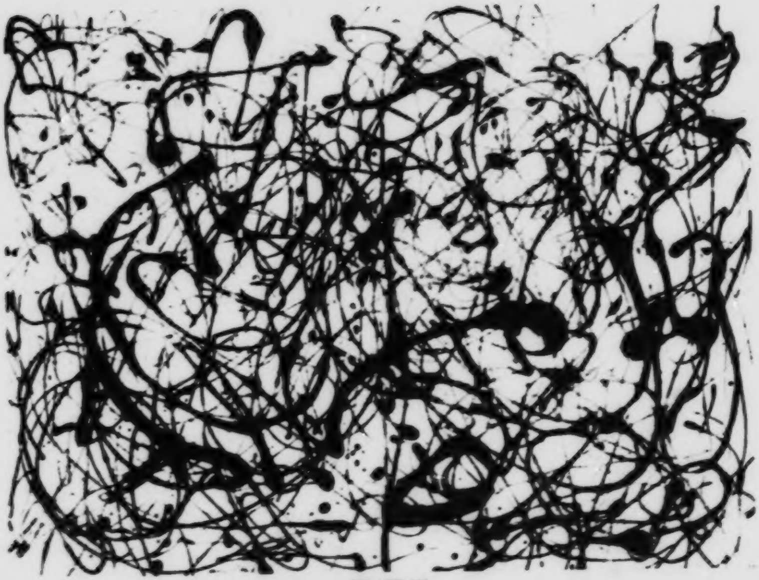


PLATE 24



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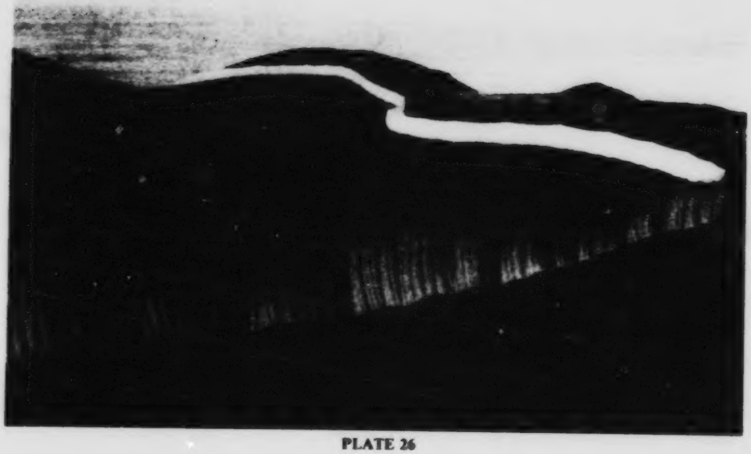

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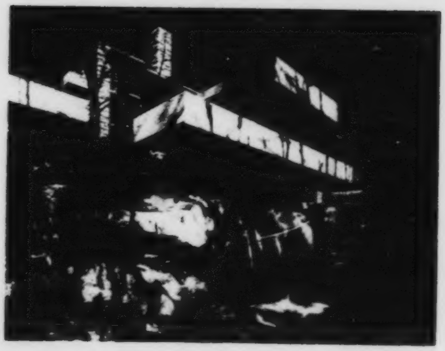

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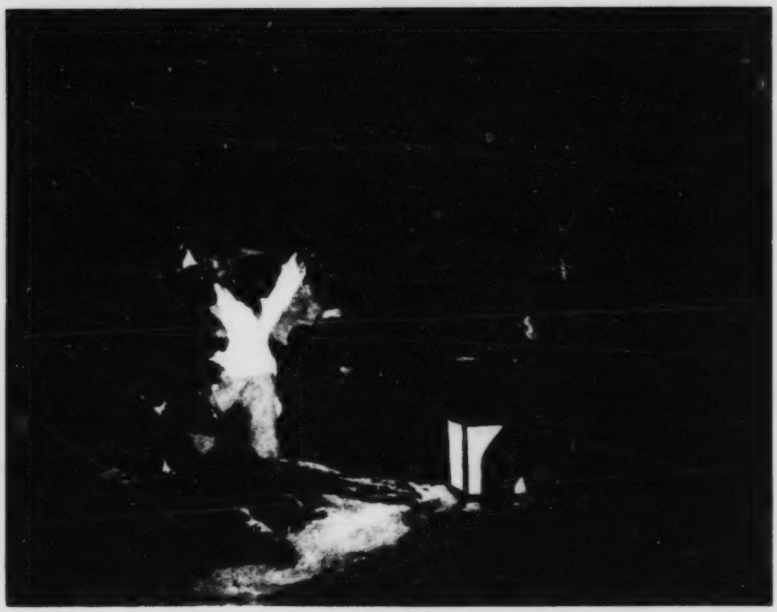

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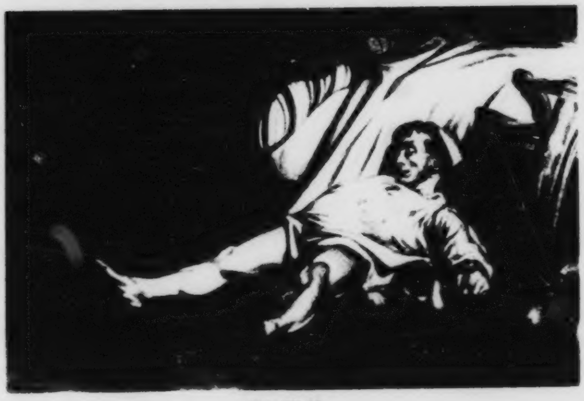

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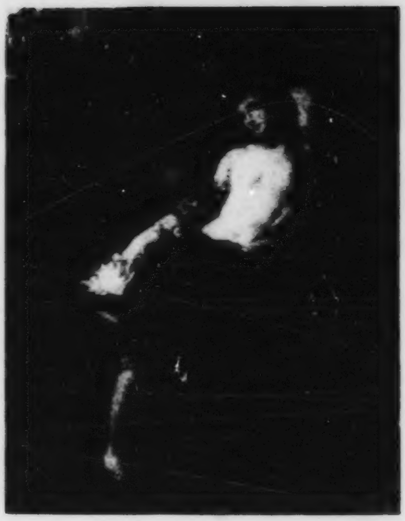

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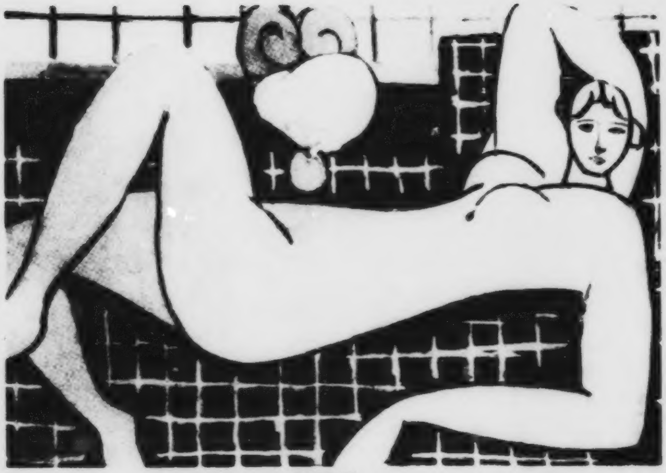

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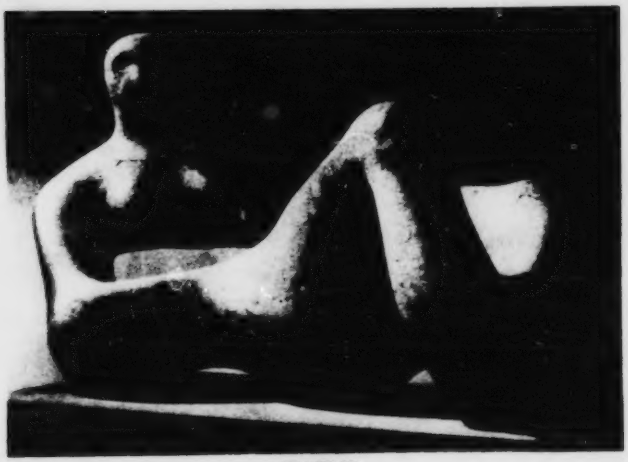

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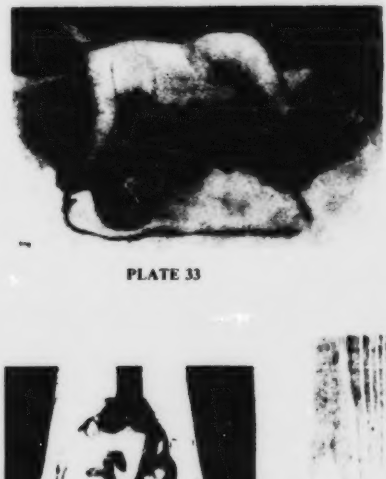

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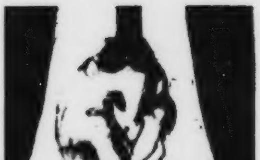

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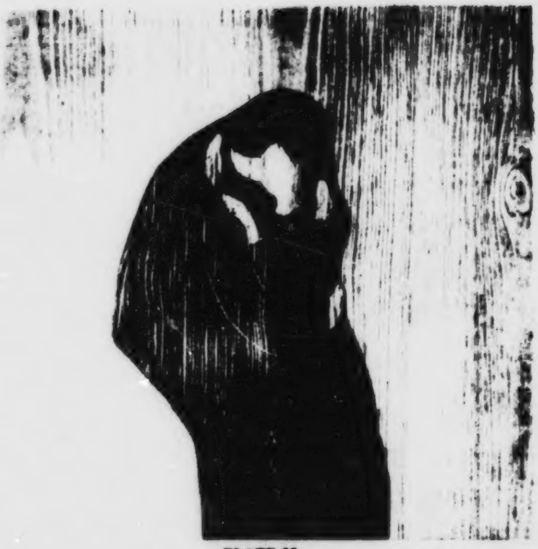

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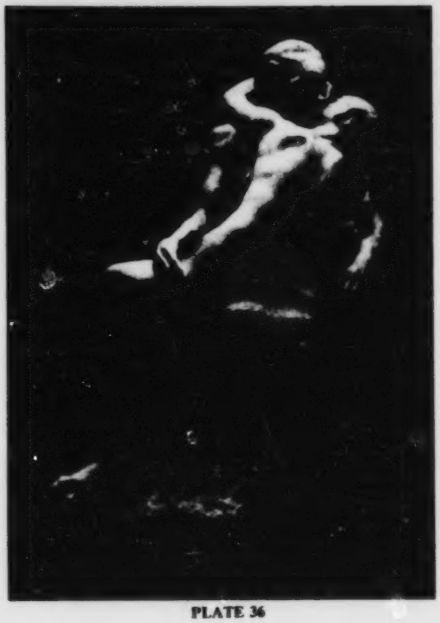

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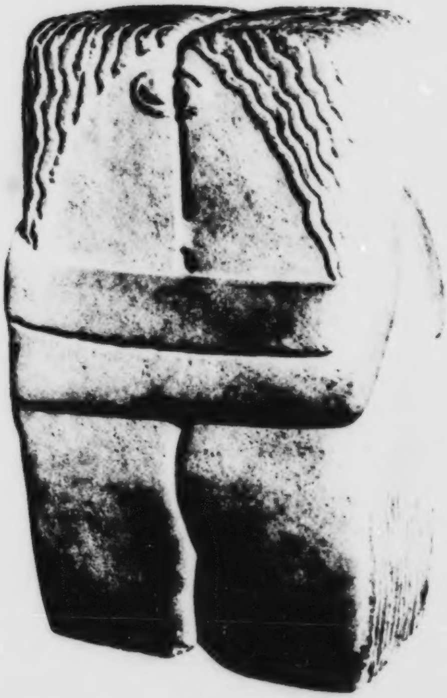

PLATE 37

PLATE 38

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

LANGUAGE 3101

NOVEMBER 1989

Value: 100 marks

Time: 3 hours

GENERAL INSTRUCTIONS

1. The examination consists of essay items only, arranged in two sections with requirements as follows:

   SECTION A — Analysis — Do the FOUR items — 40%
   SECTION B — Writing — Do any TWO items — 60%

2. All answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

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— Punctuality
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— Use of unauthorized means, and penalties

Value

SECTION A

Analysis

Read the prose selection below, and do the **FOUR** items that follow it. You may wish to read the items first and the selection second. Total value: 40%.

DEATH ON THE ICE

by

Cassie Brown

1 Nature had not been kind to Newfoundland. Surrounded by the hostile North Atlantic and attacked from the north by the frigid Arctic current, the island rises gaunt and grey out of a cold grey sea. The seventh largest island in the world, it is almost as large as Britain. But no gulf stream warms its rugged coastline; in that country of fogs and sharp breezes few men could scratch a living from the shallow soil. For many generations Newfoundlanders relied mostly on the sea.

2 Here Nature has been generous. The island's continental shelf, the Grand Banks, is the richest fishing ground in the world. It was the teeming silver shoals that brought the first fishermen here from Europe five centuries ago. Centuries earlier the Norse, those incredible seamen, had ventured into Newfoundland's coves and bays in the trading ships that they called "knorrs". They settled for a while, but after bloody battles with the native Indians and Eskimos they sailed on. In the fifteenth century, hardy Basques came upon the Grand Banks and the island beyond. After that they came every year, using Newfoundland as a harbour and a base before they returned across the Atlantic, their holds full to the brim with fish and whale oil.

3 Sailors from other lands — from France, Portugal, and England — soon joined them. Fish were what they were all after, but the English gave the island its name and began to think in terms of colonies — the first royal patent for the founding of a colony there was given in 1502. Slowly the temporary harbour camps became permanent small settlements. Settlers — from west of England, from France, from Scotland and from Ireland, seafaring men all — continued to trickle to the island and the settlements grew and expanded. But it was a harsh life, a constant struggle for survival. The men fished; the women grew what vegetables they could, and raised some sheep, goats, and poultry. The only other meat was what they got by gun or snare — ducks, geese, rabbits and, in hard times, sea birds. In bad fishing seasons families starved.

4 For two centuries these self-reliant people lived almost entirely on the Avalon Peninsula in the south of the island where St. John's, the main town, was situated. But as the population spread northward through Bonavista and Notre Dame bays in the early 1700's they discovered a new source of supplies, an additional resource to fishing, hunting, and subsistence farming.

5 Seals! Millions of seals floating by the northern part of the island, lying on the ice-field that was slowly being swept out to the Grand Banks.

• • •

6 As the pioneer settlers pushing to the north of Newfoundland discovered, [the] fat young whitecoats were easy prey, since neither the male nor the female seals usually remained to defend their young. Even if there was open water nearby the young seals could not yet move to it or swim in it. They simply lay where they were while the men scrambled over the ice to them and dispatched them with a blow to the nose. It was much easier than the old way of catching individual seals in nets set in the water — a practice still common among the white settlers of Labrador. It was not very "sporting" hunting — clubbing fluffy, white baby seals with big, black helpless eyes — but that thought had no place in the mind of a hungry man with a hungry family on the shore.

7 The seal meat proved to be rich food. The unpalatable parts could be fed to the dogs. The hides, the hunters soon found, made splendid leather for boots and clothing. The fat, rendered into oil, fed their lamps and made excellent soap. A new industry was born.

Value

2 1. (a) Is this passage mainly descriptive, expository, or narrative?

4 (b) Name **two** characteristics of the type of writing you chose in (a).

4 (c) Show that these characteristics are present in the passage and that they help the author to achieve her overall purpose.

5 2. (a) This passage is organized according to chronological time order. Explain how this is so, and tell why this is a suitable method of organizing the passage.

5 (b) What technique has the author used to achieve coherence between paragraphs one and two? Between paragraphs six and seven? Briefly explain how each technique is used.

2 3. (a) In this passage, the writer has achieved sentence variety. What is the purpose of sentence variety?

8 (b) One way to achieve sentence variety is to vary the way in which sentences are begun, which is used effectively in paragraph one. Describe **four** different types of sentence beginnings from paragraph one to illustrate the author's use of sentence variety.

5 4. (a) The topic sentence of paragraph one is: "Nature had not been kind to Newfoundland". Show that **two** of the following word choices from paragraph one are effective in bringing out the truth of the topic sentence: (i) hostile, (ii) frigid, (iii) gaunt.

5 (b) What impression is created by the diction in the following phrase from paragraph six? Explain.

> "clubbing fluffy, white baby seals with big, black helpless eyes"

SECTION B

Writing

Do any **TWO** items in this section. Each item presents a topic on which you are to do an original piece of writing. Be sure to use the characteristics of the type of writing called for in each item. Your writing will be evaluated on the basis of both content and form, so it is important that you exercise care in selecting your topic, and in using appropriate mechanics. Total value: 60%.

30 5. Exposition is writing that explains. Write an **expository** essay of 250-300 words on **one** of the following topics. Use the method of development suggested for the topic.

Love (Definition)
How to Win Friends (Analysis)
A Positive Self-Image (Cause and Effect)
Youth is a Treasure Chest (Analogy)
Book Learning and Street Smarts (Comparison and Contrast)
A Parent for Today (Illustration)
Teenage Confusion (Reasons)
A Life of Service to Others (Illustration)

30 6. Good narration involves more than a list of events. Character, action, and an ordered sequence of events are essential. Using **one** of the following topics, construct a **narrative** of 250-300 words that contains the essentials of narration.

How I Got My Nickname
Sickness in Our Family
A Psychic/Spiritual Experience
Fire!
Nightmare in Real Life
Our Trip to the Provincial Tournament
It Just Wasn't My Day
My First Day on the Job

30 7. Effective description must contain enough detail to clearly show the subject as well as enough variety to hold the attention of the reader. Choose **one** of the following and write a **descriptive** passage of 250-300 words. Develop a clear point of view, and consider a method of description appropriate to your topic.

An Enchanting Underwater World
The Ultimate Sandwich
Off the Beaten Track
Sleepless
A Summer Evening
My Best Friend — The Airhead
The Abused Child
The Ceremony

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

BUSINESS ENGLISH 3102

NOVEMBER 1989

Value: 100 marks **Time: 2 hours**

GENERAL INSTRUCTIONS

1. The examination consists of five essay items of one or more parts each, and candidates are required to do **all** items as directed in each.
2. Answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

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Value

20 1. Rewrite the following letter, correcting the twenty errors in capitalization, grammar, punctuation, spelling and usage:

1436 tennier Avenue
Sault saint Marie Ont.
P6A 3T6
1989 11 01

Brigden's of Quebec Limited
Notre dame at Langsede St.
Drummondville, Quebec
J2C 2M5

Gentlemen;

The Grade 11 english class of Commercial High School should like to have you're estimaited costs of binding in dureable dark blue cloth a collection of the best work of the members of the class. On the cover we would like to have stampped in Gold the titles Writer's Cramp.

The classbook consist of 200 hundred pages of 22 cm x 25.6 cm heavy typewriting paper with a margin of four centemetres at the left for binding.

Yours truly

David McDurmatt
Secretery

10 2. (a) List **five** techniques you could use to be (i) a better sender of messages, and (ii) a better receiver of messages.

10 (b) Explain briefly what an interviewer looks for when conducting an interview with a potential employee.

4 3. (a) (i) Explain what is meant by "barriers to communication".

8 (ii) Comment briefly on **four** barriers to communication created by the sender.

8 (b) What is the difference between the terms in any **two** of the following pairs?

(i) grapevine, bypassing
(ii) lateral, vertical (communication)
(iii) diagonal, informal

10 4. (a) Prepare an agenda for an Annual General Meeting of a voluntary society, using the following list of items:

(1) Vote of thanks for retiring officers

(2) Minutes of the last meeting

(3) Date of next meeting

(4) Matters arising

(5) Treasurer's report

(6) Motion to close

(7) Election of officers

(8) Call to order

(9) Committees' reports

(10) Chairman's report

Value
10 (b) Using one of the formats for business letters (either the closed-fully blocked or closed-semi blocked), write a letter as follows:

Write to a local farmer to arrange for a supply of vegetables for you to sell at a roadside stand during the month of August. Assume the local farmer is:

Mr. Growwell
Valley Road North
Newfoundland
A0B 9O8

And you are:

Eager Student
Valley Road South
Newfoundland
A0B 9O8

5. (a) Read the following extract and answer the five questions following the passage.

WHAT DOES
A PRAYING MANTIS
PRAY FOR?

The praying mantis is a weird-looking insect, little changed from mantis fossils which date back 40 million years. The dinosaurs and the saber-toothed tigers and the mastodons couldn't make it in a changing environment; but the mantis kept right on devouring everything in sight, and today it is the gardener's best friend.

The mantis is not a fussy eater. It enjoys cockroaches, grasshoppers, flies, wasps, caterpillars, moths, beetles, and even an occasional honeybee. When it's on the hunt, any insect in its path is not long for this world. The mantis raises its forelegs not to pray, but to get into striking position. It remains motionless in this position for its unlucky victim to come within reach as long as is necessary. Then WHAM! — the forelegs stretch out, grab the prey, and haul it up to be eaten. That tidbit down the hatch, the mantis washes its face, cat-fashion, first with one foreleg, then the other. By the time the cleanliness routine has been completed, another victim has wandered into the vicinity.

If ordinary mantis meals sound like savage affairs, consider the sex life of the praying mantis. Courtship alone is hazardous for the male; the wedding is purely disaster. No matter how cautiously he approaches his intended bride, the male is likely to get embraced and eaten by her before achieving his goal. If he can sneak up behind her, he may be able to mate with her. About one in four male mantises does manage the feat and gets away with his life. The other three get lassoed by the female's foreleg, hauled off her back, and gobbled up.

The female doesn't get away with it for long, however. After mating, she hangs upside down on a twig or stem and spins out her egg case. When she has completed this important function, she dies. Come spring, the egg case produces as many as 300 baby mantises. After a few hours of drying in the sun, the whole cycle starts over again by them. But they do more good than people realize: with mantises around to destroy insect pests, we can avoid the use of dangerous pesticides.

So what does a praying mantis actually pray for? Not much, really. Just a good square meal, a long, nonstop meal.

5 (i) Why is the praying mantis considered the gardener's best friend?

(ii) What may happen to the male mantis when it is trying to mate with the female?

(iii) How does the mantis eat?

(iv) How many mantises mate with females and get away alive?

(v) The female mantis dies after performing what important function?

5 (b) Construct an outline of the main points of the extract. Your outline should contain five points, one for each of the five paragraphs.

10 (c) Using the outline from part (b) as a guide, write a paragraph summarizing the extract.

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

ADVANCED WRITING 3103

NOVEMBER 1989

PART II

Value: 60 marks

Time: 2 hours

GENERAL INSTRUCTIONS

1. Part I of this examination has been submitted previously in the form of a student portfolio (from June 1989).
2. This paper contains Part II only of the examination, and consists of two essay items, as follows:

   ITEM #1 — Analysis (20%)
   ITEM #2 — writing (40%)
3. Candidates are required to do **BOTH** items as directed within.
4. Answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

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1. **Analysis**

Read the following excerpt from "**Arms and the Man**", and do part (a) and any **two** of parts (b), (c), and (d), following it — **THREE** parts in all.

Arms and the Man
by
George Bernard Shaw

THE OFFICER: (with soft, feline politeness and stiff military carriage). Good evening, gracious lady; I am sorry to intrude, but there is a fugitive hiding on the balcony. Will you and the gracious lady your mother please withdraw while we search?

RAINA: (petulantly[1]). Nonsense, sir, you can see that there is no one on the balcony.

(She throws the shutters wide open and stands with her back to the curtain where the man is hidden, pointing to the moonlit balcony. A couple of shots are fired right under the window, and a bullet shatters the glass opposite RAINA, who winks and gasps, but stands her ground, while CATHERINE screams, and the Officer rushes to the balcony.)

THE OFFICER: (on the baclony, shouting savagely down to the street). Cease firing there, you fools: do you hear? Cease firing. (He glares down for a moment; then turns to RAINA trying to resume his polite manner.) Could anyone have got in without your knowledge? Were you asleep?

RAINA: No, I have not been to bed.

THE OFFICER: (impatiently coming back into the room). Your neighbours have their heads so full of runaway Serbians that they see them everywhere. (Politely). Gracious lady, a thousand pardons. Good night.

(Military bow which RAINA returns coldly. Another to CATHERINE, who follows him out. RAINA closes the shutters. She turns and sees LOUKA, who has been watching the scene curiously.)

RAINA: Don't leave my mother, Louka, while the soldiers are here.

(LOUKA glances at RAINA, at the ottoman, at the curtain; then purses her lips secretively, laughs to herself, and goes out. RAINA follows her to the door, shuts it behind her with a slam, and locks it violently. The man immediately steps out from behind the curtain, sheathing his sabre, and dismissing the danger from his mind in a businesslike way.)

MAN: A narrow shave; but a miss is as good as a mile. Dear young lady, your servant until death. I wish for your sake I had joined the Bulgarian army instead of the Servian. I am not a native Servian.

RAINA: (haughtily). No, you are one of the Austrians who set the Servians on to rob us of our national liberty, and who officer their army for them. We hate them!

MAN: Austrian! not I. Don't hate me, dear young lady. I am only a Swiss, fighting merely as a professional soldier. I joined Servia because it was nearest to me. Be generous: you've beaten us hollow.

RAINA: Have I not been generous?

MAN: Noble! - heroic! But I'm not saved yet. This particular rush will soon pass through; but the pursuit will go on all night by fits and starts. I must take my chance to get off during a quiet interval. You don't mind my waiting just a minute or two, do you?

RAINA: Oh, no: I am sorry you will have to go into danger again. (Motioning towards ottoman.) Won't you sit- (She breaks off with an irrepressible cry of alarm as she catches sight of the pistol. The man, all nerves, shies like a frightened horse.)

MAN: (irritably). Don't frighten me like that. What is it?

RAINA: Your pistol! It was staring that officer in the face all the time. What an escape!

MAN: (vexed at being unnecessarily terrified). Oh, is that all?

RAINA: (staring at him rather superciliously[2], conceiving a poorer and poorer opinion of him and feeling proportionately more and more at her ease with him). I am sorry I frightened you. (She takes up the pistol and hands it to him.) Pray take it to protect yourself against me.

MAN: (grinning wearily at the sarcasm as he takes the pistol). No use, dear lady: there's nothing in it. It's not loaded. (He makes a grimace at it, and drops it disparagingly[3] into his revolver case.)

RAINA: Load it by all means.

MAN: I've no ammunition. What use are cartridges in battle? I always carry chocolate instead; and I finished the last cake of that yesterday.

RAINA: (outraged in her most cherished ideals of manhood). Chocolate! Do you stuff your pockets with sweets — like a schoolboy — even in the field?
MAN: Yes. Isn't it contemptible?

(RAINA stares at him, unable to utter her feelings. Then she sails away scornfully to the chest of drawers, and returns with the box of confectionery in her hand.)

RAINA: Allow me. I am sorry I have eaten them all except these. (She offers him the box.)

MAN: (ravenously). You're an angel! (He gobbles the comfits.) Creams! Delicious! (He looks anxiously to see whether there are any more. There are none. He accepts the inevitable with pathetic good humor, and says, with grateful emotion:) Bless you, dear lady. You can always tell an old soldier by the inside of his holsters and cartridge boxes. The young ones carry pistols and cartridges; the old ones, grub. Thank you. (He hands back the box. She snatches it contemptuously from him and throws it away. This impatient action is so sudden that he shies again.) Ugh! Don't do things so suddenly, gracious lady. Don't revenge yourself because I frightened you just now.

RAINA: (superbly.) Frighten me! Do you know sir, that though I am only a woman, I think I am at heart as brave as you.

MAN: I should think so. You haven't been under fire for three days as I have. I can stand two days without showing it much; but no man can stand three days: I'm nervous as a mouse. (He sits down on the ottoman, and takes his head in his hands.) Would you like to see me cry?

RAINA: (quickly). No.

MAN: If you would, all you have to do is scold me just as if I were a little boy and you my nurse. If I were in camp now, they'd play all sorts of tricks on me.

RAINA: (a little moved). I'm sorry. I won't scold you. (Touched by the sympathy in her voice, he raises his head and looks gratefully at her: she immediately draws back and says stiffly:) You must excuse me: our soldiers are not like that. (She moves away from the ottoman.) . . .

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[1] petulantly - impatiently
[2] superciliously - proudly
[3] disparagingly - showing disrespect for

8 (a) A playwright must make a character's personality evident through his words and actions. Which words and actions of Raina best give you an insight into her character, and what do they demonstrate about her?

6 (b) Shaw makes use of dramatic, verbal, and situational irony in this excerpt. Find and explain an example of two of these three types of irony.

Value

6 (c) Stage directions serve as a means of allowing the actor/actress to interpret the character. Which stage directions for the actor performing **The Man** would help him most in his character portrayal? What would they tell him about his character?

6 (d) The essence of any play is conflict, conflict with important consequences to arouse suspense. How successfully, judging from this excerpt, has Shaw been in creating conflict?

40 2. **Writing**

Do **ONE** part only of this item: either (a) or (b) or (c).

(a) Although a poet speaks in a very personal language, he is in a very real sense a spokesman for his society and time. Select one of the more pleasant or one of the gloomier aspects of today's society and express your impressions in a free verse or traditional poem. (Your poem must be original to this examination room setting, **NOT** a poem you have already included in your portfolio).

(b) In drama, conflict is an essential ingredient. Using the appropriate dramatic form, create a scene in which two characters are in the following fundamental conflict: one wants something that the other does not want to give. The subject may be anything — money, respect, information — but be sure to focus on the one desire. Attempt to build your scene to a climax and a resolution.

(c) Setting is most important to a sense of place and reality in fiction. In fact, some short story writers include both detail and poetic description in their exposition. The opening paragraph of ''The Portable Phonograph'', presented below, is an example of this. Write the opening paragraph(s) of a short story in which you clearly establish a sense of place and time, and in which you give enough detail to establish a sense of reality.

THE PORTABLE PHONOGRAPH

by

Walter Van Tilburg Clark

The red sunset, with narrow, black cloud strips like threats across it, lay on the curved horizon of the prairie. The air was cold, and in it settled the mute darkness and greater cold of night. High in the air there was wind, for through the veil of the dusk the clouds could be seen gliding rapidly south and changing shapes. A sensation of torment, of two-sided, unpredictable nature, arose from the stillness of the earth air beneath the violence of the upper air. Out of the sunset, through the dead, matted grass and isolated weed stalks of the prairie, crept the narrow and deeply rutted remains of a road. In the road, in places, there were crusts of shallow, brittle ice. There were little islands of an old oiled pavement in the road too, but most of it was mud, now frozen rigid. The frozen mud still bore the toothed impress of great tanks, and a wanderer on the neighboring undulations might have stumbled, in this light, into large, partially filled-in and weed-grown cavities, their banks channeled and beginning to spread into badlands. These pits were such as might have been made by falling meteors, but they were not. They were the scars of gigantic bombs, their rawness already made a little natural by rain, seed and time. Along the road there were rakish remnants of fence. There was also, just visible, one portion of multiple barbed wire still erect, behind which was a shelving ditch with small caves, now very quiet and empty, at intervals in its back wall. Otherwise there was no structure or remnant of a structure visible over the dome of the darkling earth, but only in sheltered hollows, the darker shadows of young trees trying again.

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

THEMATIC LITERATURE 3201

NOVEMBER 1989

Value: 100 marks — Time: 3 hours

GENERAL INSTRUCTIONS

1. The examination consists of essay items only, arranged in two sections with requirements as follows:

   SECTION A — Thematic Study — Do ALL items — 50%
   SECTION B — Fiction, Non Fiction, Drama — Do item number 4 and two others — 50%

2. Write as clearly and effectively as you can in the style or form directed in each item. Bear in mind that care in the use of mechanics, organization and presentation will contribute to the overall quality of responses. Also, you are advised to write concisely. Generally, item values should be used to suggest maximum lengths for answers — about one page for 10 marks and proportionately more or less than a page for other than 10 marks.

3. Answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

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SECTION A

Thematic Study

This section contains two short selections: one short story and one poem. Read both selections carefully and do the **THREE** items following them. Total value: 50%.

Selection #1

SOPHIE

Sophie's house was bare but clean. It had three rooms. Later when it got cold Sophie's Frank would cut out all the partition walls. Sophie said, 'Thlee 'loom, thlee stobe. One 'loom, one stobe.' The floor of the house was clean scrubbed. It was chair, table, and bed for the family. There was one chair; the coal-oil lamp sat on that. Sophie pushed the babies into corners, spread my old clothes on the floor to appraise them, and was satisfied. So, having tested each other's trade-straightedness, we began a long, long friendship — forty years. I have seen Sophie glad, sad, sick, and drunk. I have asked her why she did this or that thing — Indian ways that I did not understand — her answer was invariably, 'Nice ladies always do.' That was Sophie's ideal — being nice.

Every year Sophie had a new baby. Almost every year she buried one. Her little graves were dotted all over the cemetery. I never knew more than three of her twenty-one children to be alive at one time. By the time she was in her early fifties every child was dead and Sopie had cried her eyes dry. Then she took to drink.

'I got a new baby! I got a new baby!'

Sophie, seated on the floor of her house, saw me coming through the open door and waved the papoose cradle. Two little girls rolled round on the floor; the new baby was near her in a basket-cradle. Sophie took off the cloth tented over the basket and exhibited the baby, a lean, poor thing.

Sophie herself was small and spare. Her black hair sprang thick and strong on each side of the clean, straight parting and hung in twin braids across her shoulders. Her eyes were sad and heavy-lidded. Between prominent rounded cheekbones her nose lay rather flat, broadening and snubby at the tip. Her wide upper lip pouted. It was sharp-edged, puckering over a row of poor teeth — the soothing pucker of lips trying to ease an aching tooth or to hush a crying child. She had a soft little body, a back straight as honesty itself, and the small hands and feet of an Indian.

Sophie's English was good enough, but when Frank, her husband, was there she became dumb as a plate.

'Why won't you talk before Frank, Sophie?'

'Frank he learn school English. Me, no. Frank laugh my English words.'

When we were alone she chattered to me like a sparrow.

In May, when the village was white with cherry blossom and the blue water of Burrard Inlet crept almost to Sophie's door — just a streak of grey sand and a plank walk between — and when Vancouver city was more beautiful to look at across the water than to be in — it was then I loved to take the ferry to the North Shore and go to Sophie's.

The Indian Reserve was a different world — no hurry, no business.

We walked over the twisty, up-and-down road to the cemetery. Casamin, Tommy, George, Rosie, Maria, Emily, and all the rest were there under a tangle of vines. We rambled, seeking out Sophie's graves. Some had little wooden crosses, some had stones. Two babies lay outside the cemetery fence: they had not faced life long enough for baptism.

'See! Me got stone for Rosie now.''

'It looks very nice. It must have cost lots of money, Sophie.'

'Grave men make cheap for me. He say,''You got lots, lots stone from me, Sophie. Maybe bymby you get some more died baby, then you want more stone. So I make cheap for you.'''

Sophie's kitchen was crammed with excited women. They had come to see Sophie's brand-new twins. Sophie was on a mattress beside the cook stove. The twin girls were in small basket papoose cradles, woven by Sophie herself. The babies were wrapped in cotton wool which made their dark little faces look darker; they were laced into their baskets and stuck up at the edge of Sophie's mattress beside the kitchen stove. Their brown wrinkled faces were like potatoes baked in their jackets, their hands no bigger than brown spiders.

They were thrilling, those very very tiny babies. Everybody was excited over them. I sat down on the floor close to Sophie.

'Sophie, if the baby was a girl it was to have my name. There are two babies and I have only one name. What are we going to do about it?'

'The biggest and best is yours,' said Sophie.

My Em'ly lived three months. Sophie's Maria lived three weeks. I bought Em'ly's tombstone. Sophie bought Maria's.

There was a black skirt spread over the top of the packing-case in the centre of Sophie's room. On it stood the small white coffin. A lighted candle was at the head, another at the foot. The little dead girl in the coffin held a doll in her arms. It had hardly been out of them since I had taken it to her a week before. The glassy eyes of the doll stared out of the coffin, up past the closed eyelids of the child.

Though Sophie had been through this nineteen times before, the twentieth time was no easier. Her two friends, Susan and Sara, were there by the coffin, crying for her.

The outer door opened and half a dozen women came in, their shawls drawn low across their foreheads, their faces grim. They stepped over to the coffin and looked in. Then they sat round it on the floor and began to cry, first with baby whimpers, softly, then louder, louder still — with violence and strong howling: torrents of tears burst from their eyes and rolled down their cheeks. Sophie and Sara and Susan did it too. It sounded horrible — like tortured dogs.

Suddenly they stopped. Sophie went to her bucket and got water in a tin basin. She took a towel in her hand and went to each of the guests in turn holding the basin while they washed their faces and dried them on the towel. Then the women all went out but Sophie, Sara, and Susan. This crying had gone on at intervals for three days — ever since the child had died. Sophie was worn out. There had been too all the long weeks of Rosie's tubercular dying to go through.

'Sophie, couldn't you lie down and rest?'

She shook her head. 'Nobody sleep in Injun house till dead people go to cemet'ry.'

The beds had all been taken away.

'When is the funeral?'

'I dunno, Pliest go Vancouver. He not come two more day. 'Spose I gots lots money he come quick. No hully up, except fo' money.'

She laid her hand on the corner of the little coffin.

'See! Coffin-man think box fo' Injun baby no matter.'

The seams of the cheap little coffin had burst.

Sophie's other neighbour, Susan, produced and buried babies almost as fast as Sophie herself. The two women laughed for each other and cried for each other. With babies on their backs and baskets on their arms they crossed over on the ferry to Vancouver and sold their baskets from door to door. When they came to my studio they rested and drank tea with me. My parrot, sheep dog, the white rats, and the totem pole pictures all interested them. 'An' you got injun flowers too,' said Susan.

'Indian flowers?'

She pointed to ferns and wild things I had brought in from the woods.

Sophie's house was shut up. There was a chain and padlock on the gate. I went to Susan.

'Where is Sophie?'

'Sophie in sick house. Got sick eye.'

I went to the hospital. The little Indian ward had four beds. I took ice cream and the nurse divided it into four portions.

A homesick little Indian girl cried in the bed in one corner, an old woman grumbled in another. In a third there was a young mother with a baby, and in the fourth bed was Sophie.

There were flowers. The room was bright. It seemed to me that the four brown faces on the four white pillows should be happier and far more comfortable here than lying on mattresses on the hard floors in the village, with all the family muddle going on about them.

'How nice it is here, Sophie.'

'Not much good of hospital, Em'ly.'

'Oh! What is the matter with it?'

'Bad bed.'

'What is wrong with the beds?'

'Move, move, all time shake. 'Spose me move, bed move too.'

She rolled herself to show me how the springs worked. 'Me ole'-fashioned, Em'ly. Me like kitchen floor fo' sick.'

Value

Susan and Sophie were in my kitchen, rocking their sorrows back and forth and alternately wagging their heads and giggling with shut eyes at some small joke.

'You go live Victoria, now, Em'ly,' wailed Sophie, 'and we never see those babies, never!'

Neither woman had a baby on her back these days. But each had a little new grave in the cemetery. I had told them about a friend's twin babies. I went to the telephone.

'Mrs. Dingle, you said I might bring Sophie to see the twins?'

'Surely, any time,' came the ready reply.

'Come, Sophie and Susan, we can go and see the babies now.'

The mothers of all those little cemetery mounds stood looking and looking at the thriving white babies, kicking and sprawling on their bed. The women said, 'Oh my! Oh my!' over and over.

Susan's hand crept from beneath her shawl to touch a baby's leg. Sophie's hand shot out and slapped Susan's.

The mother of the babies said, 'It's all right, Susan; you may touch my baby.'

Sophie's eyes burned Susan for daring to do what she so longed to do herself. She folded her hands resolutely under her shawl and whispered to me:

'Nice ladies don't touch, Em'ly.'

Selection #2

CHRISTMAS COMES TO MOCCASIN FLAT

by
James Welch

Christmas comes like this: wise men
unhurried, candles bought on credit (poor price
for calves), warriors face down in wine sleep.
Winds cheat to pull heat from smoke.

Friends sit in chinked cabins, stare out
plastic windows and wait for commodities.
Charlie Blackbird, twenty miles from church
and bar, stabs his fire with flint.

When drunks drain radiators for love
or need, chiefs eat snow and talk of change,
an urge to laugh pounding their ribs.
Elk play games in high country.

Medicine Woman, clay pipe and twist tobacco,
calls each blizzard by name and predicts
five o'clock by spitting at her television.
Children lean into her breath to beg a story:

Something about honor and passion,
warriors back with meat and song,
a peculiar evening star, quick vision of birth.
Blackbird builds his fire. Outside, a quick thirty below.

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15 1. In two well written paragraphs, show clearly that you understand the experiences being described (the literal meaning) in the two selections.

2. Do any **TWO** of parts (a), (b), (c), and (d).

10 (a) The two main characters in the story "Sophie" are Sophie and Emily. Choose **one** of these characters, identify at least **two** important traits of the person, and support your statements fully by referring to events or direct description in the story.

10 (b) Authors frequently use contrast to emphasize a point. By referring to the poem "Christmas Comes to Moccasin Flat", show how James Welch contrasts the way the Indians live today with the way they lived in the past. (Refer to specific references to both the past and the present.)

Value

(c) The story "Sophie" is told from Emily's point of view.

3 (i) What is meant by point of view?

2 (ii) Indicate **two** other points of view which the author could have used to tell the story.

5 (iii) Briefly discuss the advantages or disadvantages of telling this story from Emily's point of view? How might the story have been different if it had been told from another point of view?

(d) Do any **TWO** of the following:

5 (i) Choose **one** example of alliteration from Selection #2 and discuss its effectiveness.

5 (ii) Discuss the meaning and significance of the following quotation from Selection #2:

> "Friends sit in chinked cabins, stare out
> plastic windows and wait for commodities."

5 (iii) The quotation which follows is from selection #1. Briefly tell what is happening at this point in the story and discuss the significance of the quotation:

> "The mothers of all these little cemetery mounds stood looking and looking at the thriving white babies, kicking and sprawling on their bed. The women said 'Oh my! Oh my!' over and over."

3. Do **ONE** part only of this item — either (a) or (b).

15 (a) By referring to incidents or descriptions in both selections, write an essay telling what you think about the white man's influence upon, or treatment of, the Indians.

15 (b) Canada's responsibilities to native peoples is an important political and social issue in our times. Having read both selections, what do you feel is a fair and responsible approach to native peoples, and how can that responsibility best be carried out?

SECTION B

Fiction, Non Fiction, Drama

Students are required to do **item #4** and any two other items, for a total of **THREE** from this section. Each answer must be written in essay format. Total value: 50%.

20 4. **COMPULSORY ITEM**

Do **ONE** part of this item — either (a) or (b) — with reference to the novels you have studied. The novels prescribed for this course are:

Light in the Forest
On The Beach
Lord of the Flies
Riverrun
Lost Horizon

(a) Choose a prescribed novel you have studied this year and show how the author effectively uses one of the following to make the theme or message clear: setting, irony, symbolism, foreshadowing, a technique of your choice.

(b) A novelist develops character by what he or she says about the person, by what the person says and does in the novel, and by what other characters say about the person in question. Describe fully one of the main characters of any prescribed novel **by referring to these methods of characterization.**

Value

NOTE — You are required to do only TWO items from numbers 5, 6, and 7.

5. Do **ONE** only of parts (a), (b), and (c), on a Shakespearean play — i.e., on either **Macbeth** or **The Merchant of Venice.**

15 (a) In many plays, a contrast in characters provides the basis of a major conflict. Use the play **The Merchant of Venice** to show how two very different characters create a major conflict. Tell how this conflict is developed and whether or not it is resolved. Use specific references from the play to support your answer.

15 (b) Discuss how any **TWO** of the following influenced Macbeth's actions in the play **MacBeth:**

(i) the witches

(ii) Lady Macbeth

(iii) Macbeth's own ambitions

15 (c) Themes or messages are very important to Shakespeare's plays. Using either **Macbeth** or **The Merchant of Venice,** discuss fully the development of one major theme or message the play has for its audience.

6. Do **ONE** part only of this item — either (a) or (b) — with reference to non-Shakespearean plays you have studied.

The following plays from **Dramatic Literature** were prescribed for study:

Antigone
An Enemy of the People
The Judgement of Indra
The Dwarf Trees
Riders to the Sea
The Boor
The Intruder
The Romancers
The Member of the Wedding

15 (a) The opening of a play often sets the tone or mood for the rest of the play. Show how this is true for a play you have studied this year. You will need to discuss the physical setting as well as the opening actions or speeches of the characters.

15 (b) If you were asked to select a prescribed play studied this year for stage presentation, which play do you feel would be the most relevant and meaningful for a present day audience, and why?

7. Do **ONE** part only of this item — either (a), (b) or (c).

15 (a) Man is often responsible for situations in which he finds himself. By referring to **EITHER** Bartlett, **(Bartlett, The Great Explorer) OR** Hubbard **(The Lure of the Labrador Wild),** discuss:

(i) the difficult situation(s) in which he finds himself, and

(ii) to what extent he is responsible.

Refer specifically to the text to support your answer.

15 (b) Man's struggle against, or relationship with, nature is a frequent subject in literature. Discuss this relationship as it relates to **EITHER Bartlett, The Great Explorer OR The Lure of the Labrador Wild.**

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

LITERARY HERITAGE 3202

NOVEMBER 1989

Value: 100 marks

Time: 3 hours

GENERAL INSTRUCTIONS

1. The examination consists of essay items only, arranged in two sections with requirements as follows:

   SECTION A — 25%
   Candidates are required to do FOUR items with reference to a short selection provided on the paper.
   SECTION B — 75%
   Candidates are required to do THREE items based on the modes of their choice.

2. Note that supporting references to appropriate prescribed texts are required in all responses in Section B. Follow Section B directions carefully as responses lacking the required references will be penalized.

3. Answers are to be written in the answer booklet provided.

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Value

SECTION A

Read the following selection and do **ALL** items in this section following it. Total value: 25%

THE DANGLING CONVERSATION
by
Paul Simon

It's a still life water colour,
Of a now late afternoon,
As the sun shines through the curtained lace,
And shadows wash the room.
And we sit and drink our coffee,
Couched in our indifference,
Like shells upon the shore,
You can hear the ocean roar.

In The Dangling Conversation,
And the superficial sighs,
The borders of our lives.

And you read your Em'ly Dickinson,
And I my Robert Frost,
And we note our place with book markers,
That measure what we've lost,
Like a poem poorly written,
We are verses out of rhythm,
Couplets out of rhyme,
In a syncopated time.

And The Dangling Conversation,
And the superficial sighs,
Are the borders of our lives.

Yes, we speak of things that matter,
With words that must be said,
Can analysis be worthwhile?
Is the theatre really dead?
Now the room is softly faded,
And I only kiss your shadow,
I cannot feel your hand,
You're a stranger now unto me.

Lost in The Dangling Conversation,
And the superficial sighs,
In the borders of our lives.

5 1. Summarize the theme of this poem.

10 2. Which mode would be most appropriate for this selection? Justify your answer with references to the poem.

5 3. Explain how the poet makes effective use of imagery.

5 4. In which ways can you relate to the situation presented in the poem?

Value

SECTION B

Do any **THREE** items in this section, supporting each of your responses with detailed references to appropriate prescribed texts. Total value: 75%.

Note that these references overall must include one detailed reference to a novel and one detailed reference to a long play, either in the same or in different responses. The three items must be carefully chosen, therefore, so that there is at least one for which reference to a novel is appropriate and one for which reference to a long play is appropriate.

For your reference, the following is a complete list of novels and plays prescribed for the course:

NOVELS
- **The Stone Angel**
- **Huckleberry Finn**
- **Wuthering Heights**
- **The Fellowship of the Ring**
- **A Separate Peace**

PLAYS
- **Oedipus Rex**
- **She Stoops to Conquer**
- **Pygmalion**
- **The Tempest**
- **A Man for All Seasons**

25 5. **The Tragic Mode**

Do **ONE** part only of this item: either (a), (b), or (c).

(a) "Tragedy is a struggle of wills. The stuggle of wills is the struggle of person against person or person against forces greater than himself." Examine this statement carefully, with reference to either **Oedipus Rex** or **The Stone Angel.**

(b) "War is man's own creation, and its consequence on the human situation may be described as tragedy on the grand scale." Evaluate this statement with reference to at least three selections from **Literary Modes.**

(c) "Tragedy requires a hero greater and better than most men but capable of error." Show that this statement is true by referring to selections studied this year.

25 6. **The Comic Mode**

Do **ONE** part only of this item: either (a), (b), or (c).

(a) By referring to either **Huckleberry Finn** or **She Stoops to Conquer,** explain why one character from the novel or play can be properly considered a comic character.

(b) The humour of a selection may be developed by stylistic devices such as exaggeration, parody, and irony. Demonstrate how these types of humour are developed in selections from **Literary Modes.**

(c) "The sublime is a gentle type of comedy." Analyze this statement with reference to at least **three** selections studied in **Literary Modes.**

25 7. **The Romantic Mode**

Do **ONE** part only of this item: either (a), (b), or (c).

(a) "Love is an essential part of romantic writings. The quest for love, however, often brings pain and suffering." Evaluate this statement with reference to either **Pygmalion** or **Wuthering Heights.**

(b) While Romantic literature may have changed in subject matter throughout the years, it has remained constant in theme and characteristics. By referring to selections from **Literary Modes,** show that this statement is true.

(c) By referring to selections studied this year, demonstrate that you have a complete understanding of any **THREE** of the following elements of romance:

(i) adventure
(ii) idealism
(iii) magic
(iv) marvel
(v) religion

Value

25 8. **The Fantastic Mode**

Do **ONE** part only of this item: either (a), (b), or (c).

(a) Evaluate **three** key elements of fantasy that are present in either **The Tempest** or **The Fellowship of the Ring**. Refer specifically to the selection chosen to support your answer.

(b) "Characters in works of fantasy may often be non-human, yet they may exhibit human qualities." Explain this statement by referring to at least **three** selections studied this year.

(c) While fantasy may be entertaining, it often has a serious purpose as well. By referring to selections in **Literary Modes**, illustrate the truth of this statement.

25 9. **The Contemplative Mode**

Do **ONE** part only of this item: either (a), (b), or (c).

(a) Writers of contemplative literature often create an atmosphere conducive to deep thought and soul-searching." Evaluate this statement with reference to works studied this year.

(b) Meditation and reflection are important elements of contemplation. Examine the use of these elements in at least **three** selections from **Literary Modes.**

(c) Symbolism is an essential feature of many contemplative works. Examine the use of symbolism in either **A Man for All Seasons** or **A Separate Peace.**

25 10. **Comparison of Modes**

Do **ONE** part of this item: either (a), (b), or (c).

(a) The surface of life is comedy's concern; tragedy is indifferent to it." Through a discussion of this statement, explain how comedy differs from tragedy. Make specific reference to at least **three** selections studied this year.

(b) "Contemplation is a part of all modes because man's contemplations reflect his attempt to understand the mysteries of life, such as the meaning of good and evil, life and death, beauty and ugliness, love and hate, charity and selfishness." With references to selections studied this year, show how **TWO** of the pairs of concepts listed above belong to the contemplative mode and at least one other mode.

(c) "Fate" is a theme common to both tragedy and fantasy. Compare the development of this theme in at least **ONE** selection from each of the above modes.

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

FOLK LITERATURE 3203

NOVEMBER 1989

Value: 100 marks

Time: 3 hours

GENERAL INSTRUCTIONS

1. The examination consists of essay items only, arranged in five sections, as follows:

   SECTION A — Folk Narrative — 30%
   SECTION B — Folk Song — 30%
   SECTION C — Folk Speech — 15%
   SECTION D — Folk Drama — 10%
   SECTION E — Fieldwork — 15%

2. Answers are to be written in the answer booklet provided.

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Value

SECTION A

Folk Narrative

Do **ALL** items in this section. Total value: 30%.

6 1. **EITHER**

(a) Explain the major differences between folk literature and written literature.

OR

(b) Outline the characteristics of recitations and monologues.

4 2. Briefly define any **FOUR** of the following:

(a) märchen
(b) vertical transmission
(c) motif
(d) tradition
(e) active tradition-bearers
(f) anecdotes
(g) cante fable

3. Read the following legend and do part (a) and any **two** of parts (b), (c) and (d) — **THREE** parts in all.

THE LEGEND OF THE DOGWOOD TREE

There is a legend we are told that originated at the time that Jesus was crucified. It is supposed to have originated in a small village somewhere close to where the actual crucifixion took place. It concerns the dogwood tree, the timber from which the cross was constructed.

At that time the dogwood tree had been the size of the oak tree, and other large forest trees. So large and firm was the dogwood tree, that the executioners chose that type timber to fashion the cross. To be used thus for such a cruel purpose greatly distressed the dogwood tree, and Jesus nailed upon it, sensed this, and in His gentle pity for all sorrow and suffering said to it: "Because of your regret and pity for my suffering, never again shall the dogwood tree grow large enough to be used as a cross. Henceforth it shall be slender and bent and twisted and its blossoms shall be in the form of a cross ... two long and two short petals. And in the centre of the outer edge of each petal there will be nail prints, brown with rust and stained with red, and in the centre of the flower will be a crown of thorns, and all who see it will remember Jesus' crucifiction."

2 (a) To which of the sub-categories of legend does "The Legend of the Dogwood Tree" belong? Briefly explain why.

4 (b) With careful reference to "The Legend of the Dogwood Tree", identify **two** characteristics of folk legends.

4 (c) How is the Personal Experience Narrative different from the Legend?

4 (d) "Legends often try to provide answers to man's curiosities." Discuss this statement using your knowledge of function.

4. Read the following folktale and do **BOTH** parts of this item following it.

MOLLY WHUPPIE

ONCE UPON A TIME there was a man and a wife had too many children, and they could not get meat for them, so they took the three youngest and left them in a wood. They travelled and travelled and could see never a house. It began to be dark, and they were hungry. At last they saw a light and made for it; it turned out to be a house. They knocked at the door, and a woman came to it, who said: "What do you want?" They said: "Please let us in and give us something to eat." The woman said: "I can't do that, as my man is a giant, and he would kill you if he comes home." They begged hard. "Let us stop for a little while," said they, "and we will go away before he comes." So she took them in, and set them down before the fire, and gave them milk and bread; but just as they had begun to eat a great knock came to the door, and a dreadful voice said:

"Fee, fie, fo, fum,
I smell the blood of some earthly one.

Who have you there wife?" "Eh," said the wife, "it's three poor lassies cold and hungry, and they will go away. Ye won't touch 'em, man." He said nothing, but ate up a big supper, and ordered them to stay all night. Now he had three lassies of his own, and they were to sleep in the same bed with the three strangers. The youngest of the three strange lassies was called Molly Whuppie, and she was very clever. She noticed that before they went to bed the giant put straw ropes round her neck and her sisters', and round his own lassies' necks he put gold chains. So Molly took care and did not fall asleep, but waited till she was sure everyone was sleeping sound. Then she slipped out of the bed, and took the straw ropes off her own and her sisters' necks and took the gold chains off the giant's lassies. She then put the straw ropes on the giant's lassies and the gold on herself and her sisters, and lay down. And in the middle of the night up rose the giant, armed with a great club, and felt for the necks with the straw. It was dark. He took his own lassies out of the bed on to the floor, and battered them until they were dead, and then lay down again, thinking he had managed finely. Molly thought it time she and her sisters were off and away, so she wakened them and told them to be quiet, and they slipped out of the house. They all got out safe, and they ran and ran, and never stopped until morning, when they saw a grand house before them. It turned out to be a king's house: so Molly went in, and told her story to the king. He said: "Well, Molly, you are a clever girl, and you have managed well; but, if you would manage better, and go back, and steal the giant's sword that hangs on the back of his bed, I would give your eldest sister my eldest son to marry." Molly said she would try. So she went back, and managed to slip into the giant's house, and crept in below the bed. The giant came home, and ate up a great supper, and went to bed. Molly waited until he was snoring, and she crept out, and reached over the giant and got down the sword; but just as she got it out over the bed it gave a rattle, and up jumped the giant, and Molly ran out at the door and the sword with her; and she ran, and he ran, till they came to the "Bridge of one hair"; and she got over, but he couldn't, and he says, "Woe worth ye, Molly Whuppie! never you come again." And she says: "Twice yet, carle," quoth she, "I'll come to Spain." So Molly took the sword to the king, and her sister was married to his son.

Well, the king he says: "Ye've managed well, Molly; but if ye would manage better, and steal the purse that lies below the giant's pillow, I would marry your second sister to my second son." And Molly said she would try. So she set out for the giant's house, and slipped in, and hid again below the bed, and waited till the giant had eaten his supper, and was snoring, sound asleep. She slipped out, and slipped her hand below the pillow, and got out the purse; but just as she was going out the giant wakened, and ran after her; and she ran, and he ran, till they came to the "Bridge of one hair," and she got over, but he couldn't, and he said, "Woe worth ye, Molly Whuppie! never you come again." "Once yet, carle," quoth she, "I'll come to Spain." So Molly took the purse to the king, and her second sister was married to the king's second son.

After that the king says to Molly: "Molly, you are a clever girl, but if you would do better yet, and steal the giant's ring that he wears on his finger, I will give you my youngest son for yourself." Molly said she would try. So back she goes to the giant's house, and hides herself below the bed. The giant wasn't long ere he came home, and, after he had eaten a great big supper, he went to his bed, and shortly was snoring loud. Molly crept out and reached over the bed, and got hold of the giant's hand, and she pulled and she pulled until she got off the ring; and just as she got it off the giant got up, and gripped her by the hand, and he says: "Now I have caught you, Molly Whuppie, and, if I had done as much ill to you as ye have done to me, what would ye do to me?"

Molly says: "I would put you into a sack, and I'd put the cat inside wi' you and the dog aside you, and a needle and thread and a shears, and I'd hang you up upon the wall, and I'd go to the wood, and choose the thickest stick I could get, and I would come home, and take you down, and bang you till you were dead."

"Well, Molly," says the giant, "I'll just do that to you."

So he gets a sack, and puts Molly into it, and the cat and the dog beside her, and a needle and thread and shears, and hangs her up upon the wall, and goes to the wood to choose a stick.

Molly she sings out: "Oh, if ye saw what I see."

"Oh," says the giant's wife, "what do ye see, Molly?"

But Molly never said a word but, "Oh, if ye saw what I see!"

The giant's wife begged that Molly would take her up into the sack till she would see what Molly saw. So Molly took the shears and cut a hole in the sack,

Value

and took out the needle and thread with her, and jumped down and helped the giant's wife up into the sack, and sewed up the hole.

The giant's wife saw nothing, and began to ask to get down again; but Molly never minded, but hid herself at the back of the door. Home came the giant, and a great big tree in his hand, and he took down the sack, and began to batter it. His wife cried, "It's me, man"; but the dog barked and the cat mewed, and he did not know his wife's voice. But Molly came out from the back of the door, and the giant saw her, and he after her; and he ran and she ran, till they came to the "Bridge of one hair," and she got over but he couldn't; and he said, "Woe worth you, Molly Whuppie! never you come again." "Never more, carle," quoth she, "will I come again to Spain."

So Molly took the ring to the king, and she was married to his youngest son, and she never saw the giant again.

---

4 (a) To what sub-category of the fictional folktale does "Molly Whuppie" belong? Why?

6 (a) Name any **three** of the textual characteristics of folk literature (Olrik's Laws) which are present in this tale. Give one example from the tale for each characteristic named.

SECTION B

Folk Song

Do any **TWO** complete items in this section. Total value: 30%.

5. Read the following folksong, and do **ALL** parts of this item following it.

The Unquiet Grave

Come blow me some winds tonight, my love,
Come blow me some drops of rain,
For I only had but one true love
And in greenwood she was slain.

For I can do as much for my true love
As any young man can say:
I'll sit and mourn all round her grave
For a twelve-month and one day.

For when the twelve-month and one day was past
Her spirit begin for to rise.
"What makes you mourn all round my grave,
For you will not let me rest?"

"Just one more kiss from your sweet lips,
And I'll go straight from your grave."

"My lips are cold tonight, sweetheart;
My breath it smells earthy and strong.
If you get one kiss from my cold lips,
Your time it won't be long.

"Go fetch me an egg from the billows so deep,
Or the water out of a stone,
Or milk all from a fair maid's breast
Where a fair maid haven't got none."

3 (a) This folksong belongs to the major classification of folksongs called lyric folksongs. Define lyric folksongs.

4 (b) What is the theme of this folksong?

8 (c) Show how **symbols and images** are used to express feelings and emotions in this folksong.

Value

6. Read the following ballad, and do parts (a) and (b) and one other part of this item following it — **THREE** parts in all.

Lord Randal

"O where ha you been, Lord Randal, my son?
And where ha you been, my handsome young man?"
"I ha been at the greenwood, mother, mak my bed soon,
For I'm wearied wi hunting and fain wad[1] lie down."

"An wha met ye there, Lord Randal, my son?
And wha met you there my handsome young man?"
"O I met wi my true-love, mother, mak my bed soon,
For I'm wearied wi hunting an fain wad lie down."

"And what did she give you, Lord Randal, my son?
And what did she give you, my handsome young man?"
"Eels fried in a pan, mother, mak my bed soon,
For I'm wearied wi hunting, and fain wad lie down."

"And wha gat your leavins, Lord Randal, my son?
And wha gat your leavins, my handsome young man?"
"My hawks and my hounds, mother, mak my bed soon,
For I'm wearied wi hunting and fain wad lie down."

"And what becam of them, Lord Randal, my son?
And what becam of them, my handsome young man?"
"They stretched their legs out an died, mother, mak my bed soon,
For I'm wearied wi huntin and fain wad lie down."

"O I fear you are poisoned, Lord Randal, my son.
I fear you are poisoned, my handsome young man."
"O yes, I am poisoned, mother, mak my bed soon,
For I'm sick at the heart and I fain wad lie down."

"What d' ye leave to your mother, Lord Randal, my son?
What d' ye leave to your mother, my handsome young man?"
"Four and twenty milk kye,[2] mother, mak my bed soon,
For I'm sick at the heart and I fain wad lie down."

"What d' ye leave to your sister, Lord Randal, my son?
What d' ye leave to your sister, my handsome young man?"
"My gold and my silver, mother, mak my bed soon,
For I'm sick at the heart, an I fain wad lie down."

"What d' ye leave to your brother, Lord Randal, my son?
What d' ye leave to your brother, my handsome young man?"
"My houses and my lands, mother, mak my bed soon,
For I'm sick at the heart, and I fain wad lie down."

"What d' ye leave to your true-love, Lord Randal, my son?
What d' ye leave to your true-love, my handsome young man?"
"I leave her hell and fire, mother, mak my bed soon,
For I'm sick at the heart and I fain wad lie down."

---

[1] fain wad: would gladly
[2] kye: cattle

3 (a) Define the term Classical Ballad.

4 (b) To which of the sub-genres of the classical ballad does "Lord Randal" belong? Why?

8 (c) **EITHER**

(i) Comment on this ballad's style by referring to **TWO** of the following:

(1) refrain
(2) "leaping and lingering"
(3) repetition

OR

(ii) This ballad exhibits many of the textual characteristics of folk literature. Identify any **TWO** and explain how each is used here.

Value

10 7. (a) Write definitions for any **FIVE** of the following folksong terms:

- (i) Broadside Ballad
- (ii) Catalogue Songs
- (iii) Shanties
- (iv) Sentimental Songs
- (v) Cumulative Songs
- (vi) Occupational Songs
- (vii) Modern Ballad

5 (b) What is the main consideration in determining whether a song is a folksong or not?

SECTION C

Folk Speech

Do **ALL** items in this section. Total value: 15%.

10 8. Choose any **FOUR** of the following proverbs, and for each explain (1) the meaning, and (2) the function. (Some proverbs may have more than one function.)

- (a) You are too big for your boots.
- (b) The best fish swim near the bottom.
- (c) A man is known by the company he keeps.
- (d) Beauty is in the eye of the beholder.
- (e) His bark is worse than his bite.
- (f) A moneyless man goes fast through the market.
- (g) A closed mouth catches no flies.

5 9. **EITHER**

(a) Briefly discuss **TWO** of the following categories of rhymes. (Provide at least one example for each.)

- (i) Infant Rhymes
- (ii) Rhymes of School Children
- (iii) Adult Rhymes
- (iv) Partisan Rhymes

OR

(b) Select any **TWO** game rhymes with which you are familiar, and for each, state the following:

(1) the type of game rhyme

(2) the age group most likely to use the game rhyme

(3) the possible function or purpose this game rhyme might have

SECTION D

Folk Drama

Do any **TWO** items in this section. Total value: 10%.

5 10. Write a paragraph describing the traditional "house-visit" type of mummering which takes place in Newfoundland.

5 11. What are **FIVE** elements of folk drama that make it different from drama you might go to see in a theatre?

5 12. Distinguish between **"The Mummers' Play"** and **"The Miracle Play"**.

Value

SECTION E

Fieldwork

Do **ALL** items in this section. Total value: 15%.

5 13. Do one part only — **EITHER** (a) **OR** (b).

(a) Briefly define **FIVE** of the following fieldwork terms:

- (i) Fieldwork
- (ii) Informants
- (iii) Rapport
- (iv) Participant-observer
- (v) Performance
- (vi) Context

(b) Establishing rapport is the most important task facing a fieldworker. Outline **FIVE** things a fieldworker can do to establish rapport.

10 14. Making reference to a fieldwork/collecting project you did last year, discuss the following points:

(a) Your topic and the reasons you chose that topic

(b) The steps you took in preparing for your fieldwork/collecting

(c) The community context in which your fieldwork/collecting took place

(d) The performance style of your informant(s)

(e) Your personal comments about the fieldwork/collecting

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

NUTRITION 3100

NOVEMBER 1989

PART I

Value: 40 marks Time: 40 minutes

Examination Number ____________________

GENERAL INSTRUCTIONS

1. Part I consists of objective items only, arranged in two sections as follows, and candidates are required to do **ALL** items.

   SECTION A — Multiple-choice — 25%
   SECTION B — Completion — 15%

2. All answers are to be written in this paper.

3. Be sure to write your Examination Number in the space above.

REGULATIONS FOR CANDIDATES

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— Materials required
— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

SECTION A

Write the letter of the correct response for each of the following in the blank at the right. Total value: 25%.

1. Which nutrient intake could be reduced to treat high blood pressure? .... (1) ______
   (A) calcium
   (B) iron
   (C) sodium
   (D) zinc

2. What nutrient is the first to pass out of the stomach to be absorbed in the small intestine? .... (2) ______
   (A) carbohydrates
   (B) protein
   (C) fat
   (D) vitamins

3. What hormone lowers blood glucose levels? .... (3) ______
   (A) insulin
   (B) adrenalin
   (C) estrogen
   (D) testosterone

4. What food has the lowest cholesterol content? .... (4) ______
   (A) shrimp
   (B) egg
   (C) cod
   (D) liver

5. Which of the following foods would complement the protein in dried beans? ... (5) ______
   (A) brown rice
   (B) polished rice
   (C) split peas
   (D) bread

6. In the form of which chemical is carbohydrate stored in the liver? .... (6) ______
   (A) glycogen
   (B) glucose
   (C) sucrose
   (D) fructose

7. In which diet is nutritional health compromised most significantly?............ (7) ______
   (A) lacto-ovo vegetarian
   (B) pescovegetarian
   (C) lacto-vegetarian
   (D) vegan

8. Due to which factor is it considered a common mistake to give a baby a bottle at bedtime? .... (8) ______
   (A) excessive weight gain
   (B) dental cavities
   (C) its habit forming effects
   (D) the prevention of easy weaning

9. What vitamin aids the absorption of iron? .... (9) ______
   (A) A
   (B) C
   (C) E
   (D) K

10. In comparison with the recommendation for pregnancy, of which of the following should the lactating woman increase her intake? .... (10) ______
    (A) liquids
    (B) iron
    (C) vitamin B
    (D) vitamin D

11. What causes acne to be common among teenagers? .... (11) ______
(A) greasy foods
(B) chocolates and sweets
(C) hormonal changes
(D) inherited characteristics

12. Which of the following can cause your blood cholesterol to rise? .... (12) ______
(A) polyunsaturated fats
(B) vegetable oil
(C) saturated fats
(D) lecithin

13. What food has the lowest quality protein? .... (13) ______
(A) cheese
(B) eggs
(C) trout
(D) peanuts

14. How many daily servings from the milk and milk products group are suggested for an adolescent by Canada's Food Guide? .... (14) ______
(A) two
(B) three
(C) four
(D) five

15. Older people generally become less active and their metabolic rate decreases as they age. Which of the following do they need less? .... (15) ______
(A) protein
(B) kilojoules
(C) exercise
(D) vitamin C

16. Which of the following nutrients should be increased most during pregnancy? . . (16) ______
(A) fat
(B) sugar
(C) calcium
(D) salt

17. Certain kinds of cancer have been associated with one's diet. Which type of diet is most closely connected with cancer? .... (17) ______
(A) high salt diet
(B) high carbohydrate diet
(C) high fat diet
(D) high vitamin A diet

18. Why is it that in developing countries, breast feeding usually is the better way of feeding infants? .... (18) ______
(A) The milk supply is safer when mothers nurse their babies.
(B) Lactose intolerance is less likely to occur.
(C) Cow's milk is simply not available.
(D) Breast feeding carries higher social status.

19. Which of the following is **TRUE** for unsaturated fat? .... (19) ______
(A) is used to make cholesterol
(B) is solid at room temperature
(C) has 37.8 KJ per gram
(D) tends to be found in plants

20. On which of the following groups will any type of vegetarian diet have the greatest negative impact? .... (20) ______
(A) growing children
(B) adults on weight reduction diets
(C) underweight adults
(D) senior adults

21. Which of the following foods should **NOT** be given to babies? .... (21) ______
(A) hard cooked egg yolks
(B) strained meat
(C) nuts, raw peas and berries
(D) raw bananas

22. What is the main function of the B-complex vitamin? .... (22) ______
    (A) to build and repair body tissue
    (B) to free energy from protein, fat and carbohydrate
    (C) to prevent scurvy and bleeding gums
    (D) to assist in the clotting of blood

23. Which of the following is an outstanding source of iron? .... (23) ______
    (A) egg white
    (B) oranges
    (C) bananas
    (D) liver

24. In order to lose one pound per week, how much should a person decrease his/her daily caloric intake (in calories)? .... (24) ______
    (A) 100
    (B) 200
    (C) 500
    (D) 750

25. Which highly saturated fat is found in coffee whiteners? .... (25) ______
    (A) safflower oil
    (B) coconut oil
    (C) vegetable oil
    (D) corn oil

SECTION B

Write the correct response for each of the following in the blank at the right. Total value: 15%.

26. What is the term used to describe the amount of energy needed by the body to carry on bodily functions? .... (26) ______

27. How do athletes manage to store an additional source of energy in the muscles? .... (27) ______

28. What vitamin is often deficient in a vegetarian diet which restricts all animal sources of meat? .... (28) ______

29. What is the most common nutritional problem among adults in North America? .... (29) ______

30. What is the name of a diet that is popular for a short period of time? .... (30) ______

31. Which nutrient is often involved with allergies? .... (31) ______

32. What vitamin deficiency causes osteomalacia in adults? .... (32) ______

33. What vitamin is needed for the natural process of blood clotting? (33) ______

34. Which nutrient group is supplied in significant quantities in the fruits and vegetables group? .... (34) ______

35. Which vitamin is decreased when milk is exposed to sunlight? .. (35) ______

36. Which vitamin deficiency causes pellegra? .... (36) ______

37. Which eating disorder involves binge-eating, followed by purging, vomiting, or some other means of expelling the food? .... (37) ______

38. What mineral is added to drinking water to help strengthen dental enamel? .... (38) ______

39. Which is the most plentiful of the six basic nutrients? .... (39) ______

40. Which vitamin intake has to be increased by a smoker? .... (40) ______

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

NUTRITION 3100

NOVEMBER 1989

PART II

Value: 60 marks

Time: 80 minutes

GENERAL INSTRUCTIONS

1. Part II consists of essay items only, arranged in four sections, with requirements as follows:

   SECTION A — Do any THREE items — 30%
   SECTION B — Do any TWO items — 24%
   SECTION C — Do any ONE item — 6%

2. Answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

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— Leaving the room
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— Use of unauthorized means, and penalties

Value

SECTION A

Do any **THREE** complete items in this section. Total value: 30%.

2 1. (a) Record (in a clear orderly manner) everything you ate in the last 24 hours, starting with the last meal you had today. (Think carefully about what you ate, and the quantities, so that you have as complete a record as possible.)

For Example:

(Incorrect)	(Correct)
buttered toast	2 slices of white bread (toasted) 1 T. butter

Now, compare your intake to that recommended for your age level from each food group of Canada's Food Guide.

2 (b) Is your diet adequate? If yes, explain why.

2 (c) What changes, if any, are appropriate, and why?

2 (d) Does your diet include a good source of polyunsaturated fatty acid? If yes, point this out.

2 (e) Does it limit foods with high amounts of saturated fat and cholesterol?

10 2. Explain the role of each of the following organs in the process of digestion.

(a) mouth
(b) pancreas
(c) stomach
(d) large intestine
(e) small intestine

9 3. (a) Older people often have poor nutrition. This can be caused by social, psychological and physical factors. Give **ONE** example of each type of factor, and explain how it affects their nutrition.

1 (b) What situation has changed in our population ratio to make nutrition of the elderly an even more obvious problem?

4 4. (a) Name and explain **FOUR** types of vegetarian diets.

6 (b) What are **THREE** advantages and **THREE** disadvantages of vegetarian diets?

SECTION B

Do any **TWO** complete items in this section. Total value: 24%.

4 5. (a) Define malnutrition, and name **THREE** diseases directly or indirectly related to malnutrition.

3 (b) Compare the malnutrition of an individual in an affluent (wealthy) society with that of one in a developing country.

5 (c) Outline **FIVE** things we as individuals can do to alleviate world hunger, however insignificant these attempts may seem to be.

4 6. (a) Name and explain **TWO** protein deficiency diseases.

8 (b) Name and explain **FOUR** methods used to increase crop yield. These methods must be new to the 20th century.

Value

12 7. Explain how each of the following have contributed to world food problems:

(a) superstitions
(b) population growth
(c) climate
(d) economy
(e) lack of technology
(f) politics

SECTION C

Do any **ONE** complete item in this section. Total value: 6%.

6 8. Explain the qualifications, responsibilities and job opportunities of any **TWO** of the following careers:

(a) Administrative Dietetic Technician
(b) Chef
(c) Home Economics Teacher

3 9. (a) There are four areas of food service: food preparation, consumer service, sanitation, and management. Which of these areas offer entry-level jobs? Give **ONE** example of such a job in each area that does.

3 (b) Compare a professional position and a para professional position in the food industry in terms of:

(i) educational background
(ii) job responsibility
(iii) salary

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

TEXTILES 3101

NOVEMBER 1989

PART I

Value: 40 marks

Time: 45 minutes

Examination Number ____________________

GENERAL INSTRUCTIONS

1. Part I consists of objective items only, arranged in two sections as follows, and candidates are required to do **ALL** items.

   SECTION A — 25 multiple-choice items — 25%
   SECTION B — 15 completion — 15%

2. Be sure to write your Examination Number in the space provided above.

REGULATIONS FOR CANDIDATES

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SECTION A

Write the letter of the correct response for each of the following in the blank at the right. Total value: 25%.

1. What type of line is often used by women to create the optical illusion of height and slimness? .... (1) ______
   (A) diagonal
   (B) curve
   (C) horizontal
   (D) vertical

2. What is the most outstanding characteristic of Spandex? .... (2) ______
   (A) strength
   (B) elasticity
   (C) durability
   (D) absorbency

3. What are the two natural protein fibres? .... (3) ______
   (A) cotton and linen
   (B) wool and rayon
   (C) linen and rayon
   (D) wool and silk

4. What should be one's first consideration when buying clothing? .... (4) ______
   (A) the latest fashion
   (B) the person's need
   (C) the money available
   (D) what looks good on the person

5. What is the process by which cotton seeds and fibres are separated?........... (5) ______
   (A) carding
   (B) combing
   (C) ginning
   (D) retting

6. What American designer influenced "the designer jean" fad of the 1970's and 80's? (6) ______
   (A) Calvin Klein
   (B) Pierre Cardin
   (C) Karl Lagerfield
   (D) Yves Saint-Laurent

7. Which of the following fibres can be felted?................................. (7) ______
   (A) acrylic
   (B) wool
   (C) silk
   (D) polyester

8. Which Canadian designer's belief that every woman should look her best at home with the family brings new meaning to sleep and leisure wear?................ (8) ______
   (A) Claire Haddad
   (B) Marilyn Brooks
   (C) Alfred Sung
   (D) Michel Robichaud

9. Which of the following fabrics or fabric designs would tend to make the wearer look heavier? .... (9) ______
   (A) one-colour outfits with unbroken lines
   (B) napped and tweed fabrics
   (C) vertical lines with a v-neckline
   (D) small prints and fine textured fabrics

10. What name refers to a finish which protects fabric from spills by not allowing soil and dirt to penetrate the surface of the fabric? .... (10) ______
    (A) water repellent
    (B) water and soil releasant
    (C) soil and oil repellent
    (D) soil releasant

11. Which of the following would scorch if ironed at a high temperature? . . . . (11) ______
    (A) silk
    (B) cotton
    (C) linen
    (D) polyester

12. Which garment would require the most expensive care? . . . . (12) ______
    (A) navy blue cords
    (B) gray shirt made of cotton and polyester
    (C) white wool skirt
    (D) jean jacket

13. Which type of texture would make the wearer appear larger than actual? . . . . . . (13) ______
    (A) moderately crisp
    (B) rough
    (C) smooth
    (D) dull

14. What was the first semi-synthetic fibre to be produced? . . . . (14) ______
    (A) nylon
    (B) rayon
    (C) acetate
    (D) triacetate

15. Which of the following blends would be the best fibre choice for socks? . . . . (15) ______
    (A) nylon and wool
    (B) polyester and cotton
    (C) acrylic and nylon
    (D) linen and wool

16. What term would be used to describe a fabric that dyes easily and is cool to wear? (16) ______
    (A) absorbent
    (B) resilient
    (C) elastic
    (D) abrasion resistant

17. What kind of finish decreases the fabric's tendency to cling? . . . . (17) ______
    (A) antistatic
    (B) anticling
    (C) saniguard
    (D) sanforized

18. What principle of design is achieved when there is a pleasant arrangement of all parts of a garment? . . . . (18) ______
    (A) harmony
    (B) rhythm
    (C) proportion
    (D) emphasis

19. Which of the following best illustrates an analogous colour scheme? . . . . (19) ______
    (A) red skirt, yellow blouse, and purple scarf
    (B) light blue dress with navy shoes and belt
    (C) blue dress with red accessories
    (D) blue skirt, blue green blouse and blue violet scarf

20. What garment came about by the invention of the automobile? . . . . (20) ______
    (A) picture hats
    (B) crinolines
    (C) dustcoats
    (D) hobble skirts

21. What French designer popularized slacks for women and "the little black dress"? (21) ______
    (A) Pierre Cardin
    (B) Gabrielle Chanel
    (C) Liz Clarborne
    (D) Christian Dior

22. Which of the following fabric textures would hug the body and emphasize any figure irregularities? .... (22) ________
    (A) extra crisp
    (B) smooth
    (C) soft or clingy
    (D) nubby and bulky

23. Which type of filling knit is often used as neck, wrist and bottom bands on sweaters and jackets? .... (23) ________
    (A) tricot
    (B) rib
    (C) double
    (D) warp

24. Which of the following best describes the principle of design known as rhythm? (24) ________
    (A) the focal point of the garment, being the area that first attracts the viewers' eye
    (B) the repeating of lines, colour, trimming or details to create a pattern by which the eye can flow through the garment
    (C) all the elements of a design coming together in a pleasing effect
    (D) the internal spaces of a shape working together to please the eye

25. What quality of knitted fabrics makes them well suited for the making of sports clothing? .... (25) ________
    (A) absorbency
    (B) elasticity
    (C) resistance to abrasion
    (D) resistance to static

SECTION B

Write the correct response for each of the following in the blank at the right. Total value: 15%.

26. What term refers to items such as belts, scarves, shoes, jewellery, etc., worn in addition to basic clothing items? .... (26) ________________

27. What trademark of a finish is applied to a fabric that will not shrink more than 1% .... (27) ________________

28. What was the "young look" of the 1920's with drop-waisted and above-the-knee features? .... (28) ________________

29. What name was given to Christian Dior's fashions of the late 1940's which were characterized by tight waists and mid-calf lengths? . . (29) ________________

30. What term is used to describe an article of clothing that has "withstood the test of time" and has been fashionable for many years? (30) ________________

31. What synthetic fibre is strong enough to be used to make rope? (31) ________________

32. What term refers to the interlacing of two sets of yarns at right angles to each other? .... (32) ________________

33. What term means any special treatments that are applied to fabrics? (33) ________________

34. What is Canada's leading fashion centre? .... (34) ________________

35. What type of fibres are long and continuous, and measured in metres? .... (35) ________________

36. What type of yarns are permanently set into waves, ripples, zigzags, or various twists? .... (36) ________________

37. What is the name that indicates a general classification of fibres of similar composition? .... (37) ________________

38. What colour would be used with yellow in a complementary colour scheme? .... (38) ________________

39. What term is used for a creator of new designs for all types of clothing? .... (39) ________________

40. What were narrow skirt dresses extending to the ankles? .... (40) ________________

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

TEXTILES 3101

NOVEMBER 1989

PART II

Value: 60 marks

Time: 1 hour, 15 minutes

GENERAL INSTRUCTIONS

1. Part II consists of essay items only, arranged in four sections with requirements as follows:

   SECTION A — Do ONE item — 10%
   SECTION B — Do ONE item — 10%
   SECTION C — Do THREE items — 30%
   SECTION D — Do ONE item — 10%

2. Answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the Chief Supervisor prior to the first session, and have been posted for further reference near the entrance to the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

— Materials required
— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

Value

SECTION A

Do any **ONE** complete item from this section. Total value: 10%.

6 1. (a) Explain how any **THREE** of the following factors can have an influence on our choice of clothing. For each factor, name one item of clothing that would help clarify your explanation.

(i) traditions
(ii) famous people
(iii) individuality
(iv) roles

4 (b) State what illusion any **FOUR** of the following features would tend to create in an outfit.

(i) long puffed sleeves
(ii) moderately crisp texture
(iii) a straight dress with a contrasting belt
(iv) a bright red shirt with bright blue pants
(v) narrow vertical tucks at the waistline
(vi) a high neck dress

10 2. Jane is very fashion conscious and likes to dress to look her best. She is aware that she is top heavy and has asked your advise about how to dress to minimize her problem. Advise Jane on the line, colour, texture, shape and design in clothing that would be best for her.

SECTION B

Do any **ONE** complete item from this section. Total value: 10%

10 3. During the 20th century, many fashions have been inspired and influenced by different sources. List **FIVE** such sources and describe the fashion style started by each.

6 4. (a) Some styles endure for a very long time while others are fads that do not stay in fashion very long. Explain why this is so.

4 (b) Often a fashion that was popular in one era reappears after a period of time. Name and describe **TWO** such fashions, stating the decade(s) or era(s) in which they appeared.

SECTION C

Do any **THREE** complete items from this section. Total value: 30%.

10 5. For each of the following textile items, state **TWO** characteristics that would be desirable in that particular item, and name one fibre that would provide these characteristics.

(i) track suit
(ii) winter jacket
(iii) casual pants
(iv) prom dress
(v) drapes for a public building

6 6. (a) State **THREE** important factors one should consider when making or buying an article of clothing to ensure that the item is suitable for the wearer.

4 (b) Explain **TWO** reasons why fabric care is important.

7. Many finishes are used in the textile industry.

4 (a) What is a finish and what is its purpose?

6 (b) Name **THREE** finishes that are commonly used, and state why each particular finish is used.

Value

8. Since the 17th century, when cotton and wool were first blended, use of blends has become common in the textile industry.

1 (a) Explain what a blend is.

6 (b) Give **THREE** reasons why blends are used.

3 (c) Name **ONE** blend, other than the one noted above, and state what fibres were blended and why.

8 9. (a) There are two broad groups of fibres used in the making of fabrics, man-made and natural. Discuss **TWO** advantages and **TWO** disadvantages of using man-made fibres over natural fibres in textile products.

2 (b) Fabrics have a number of properties that affect their end use. Name **TWO** fabric properties and state the end use for which each property would be suited.

SECTION D

Do the **ONE** complete item in this section. Total value: 10%.

10 10. A list of some of the occupations in the clothing and textiles industry is given below. Choose **FIVE** occupations, and for each, write a brief job description, and state the level of training or educational preparation required.

(a) commercial artist
(b) fashion designer
(c) textile chemist
(d) fashion illustrator
(e) fashion model
(f) fashion coordinator
(g) vocational school teacher

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

FRENCH 3200

NOVEMBER 1989

Value: 100 marks

Time: 3 hours

Examination Number ____________

GENERAL INSTRUCTIONS

1. The examination consists of objective and essay items, arranged in four sections as follows, and candidates are required to do **ALL** sections as directed in each:

   SECTION A — Listening — 30%
   SECTION B — Dialogue — 20%
   SECTION C — Reading — 25%
   SECTION D — Writing — 25%

2. Note that Section A will be administered by tape. Instructions for individual items are written on the paper and will be read on the tape as each item is presented. LISTEN CAREFULLY AS THE TAPE WILL NOT BE STOPPED FOR REPETITION. All other sections are presented in written form only on this paper.

3. Note that for marking purposes, item values are given as a number of points out of 200. Hence, the percent value of items is exactly half the marking point value.

4. All answers are to be written on this paper. Do not use allotted answer spaces for rough drafts which you may wish to discard.

5. Be sure to write your Examination Number in the space above.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the Chief Supervisor prior to the first session, and have been posted for further reference near the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

- Materials required
- Materials not permitted
- Use of handheld calculator
- Use of pen or pencil
- Communication and movement during the examination
- Punctuality
- Leaving the room
- Use of answer booklets
- Completion of required information
- Use of unauthorized means, and penalties

Value

SECTION A

Listening

Do **ALL** items in this section as directed on the tape. Total value: 60 points (30%).

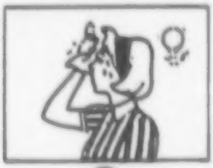
5 1. In your examination booklet are five pictures, numbered (i) to (v). For each picture you will hear three statements, **A**, **B**, and **C**, read only **once**. Only one of these statements is appropriate for the picture. You are to determine which is the appropriate statement and circle the corresponding letter under the picture.

EXAMPLE

(A) Elle a faim.

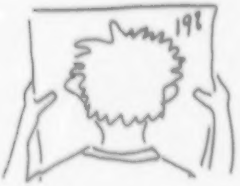
(B) Elle a chaud.

(C) Elle a froid.



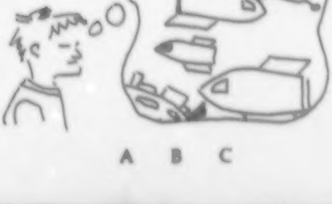
A [✓ B] C

(i)



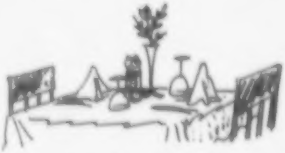
A B C

(ii)



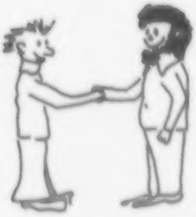
A B C

(iii)



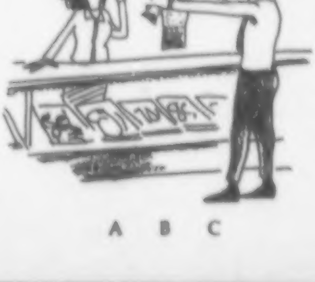
A B C

(iv)



A B C

(v)



A B C

Value

10 2. You will hear ten sentences, numbered (i) to (x), each read only once. One of the verb forms in the list given for each sentence will be used by the speaker. Select the form you have heard and place the letter A, B or C, identifying it in the corresponding blank to the right of each answer group.

EXAMPLE

J'ai déjà parlé avec le prof.

(A) parler
(B) parlé .... (EX) B
(C) parlais

(i) (A) donnez
(B) donner .... (i) ____
(C) donné

(ii) (A) travaillerons
(B) travailleront .... (ii) ____
(C) travaillons

(iii) (A) croyait
(B) croyiez .... (iii) ____
(C) croyez

(iv) (A) aiment
(B) aimes .... (iv) ____
(C) aime

(v) (A) voyageraient
(B) voyagerais .... (v) ____
(C) voyagerait

(vi) (A) avait
(B) avais .... (vi) ____
(C) avez

(vii) (A) parlez
(B) parler .... (vii) ____
(C) parlé

(viii) (A) trouvés
(B) trouvée .... (viii) ____
(C) trouvées

(ix) (A) passe
(B) passes .... (ix) ____
(C) passent

(x) (A) fasse
(B) fassent .... (x) ____
(C) fasses

5 3. You will hear five sentences, numbered (i) to (v), each read twice. For each sentence you will see three possible responses, A, B, and C, printed on your paper. You are to select the response which is most clearly associated with each sentence, and identify it by writing A, B, or C in the blank to the right of the response group.

EXAMPLE

Elle ne parle pas beaucoup.

(A) Elle est vieille.
(B) Elle est jolie. .... (EX) C
(C) Elle est timide.

(i) (A) Oui, sa voiture est un tas de feraille.
(B) Oui, sa voiture marche bien. .... (i) ____
(C) Oui, le moteur demarre bien.

(ii) (A) Je dois rouler plus vite.
(B) Je dois klaxonner. .... (ii) ______
(C) Je dois mettre mon clignotant.

(iii) (A) Il est presque sourd.
(B) Il est presque aveugle. .... (iii) ______
(C) Il est presque muet.

(iv) (A) Tiens! Il a gagné à la loterie.
(B) Il a perdu son portefeuille. .... (iv) ______
(C) Il part en vacances.

(v) (A) Il faut qu'ils finissent leur travail.
(B) Il faut qu'ils écrievent une lettre. .... (v) ______
(C) Il faut qu'ils restent au lit.

10 4. You will hear five questions, numbered (i) to (v), each read **twice**. For each question you will hear three possible responses, **A, B, and C**, read **twice**. You are to select the response which is most closely associated with each question and circle the corresponding letter on your paper.

EXAMPLE

Question: Comment va ta mère?

Responses: (A) Elle va bien.
(B) Ils vont bien.
(C) Il va bien.

(EX)	[✓ A]	B	C
(i)	A	B	C
(ii)	A	B	C
(iii)	A	B	C
(iv)	A	B	C
(v)	A	B	C

10 5. You will hear five short passages, numbered (i) to (v), and five questions, one for each passage. Each passage and each question will be read **twice**. For each question you hear, select the best answer from the three listed on your paper, and place the letter identifying it in the blank to the right of each answer group.

EXAMPLE

Passage: "Marc a dix-sept ans. Il est en douzième année à l'école. L'année prochaine il espère faire des études à l'université. Il veut devenir professeur."

Question: A quoi pense Marc?

(EX) (A) les sports
(B) son avenir .... (EX) __B__
(C) son professeur

(i) (A) à Paris
(B) dans une maison .... (i) ______
(C) dans une usine

(ii) (A) mon prof
(B) un train .... (ii) ______
(C) un bon élève

(iii) (A) Elle a dix-sept ans.
(B) C'est l'anniversaire de Marie. .... (iii) ______
(C) Elle a vingt ans.

Value

(iv) (A) douze heures le soir
(B) le matin .... (iv) ______
(C) le 22 octobre

(v) (A) Elle pense à ses vacances.
(B) Elle pense à son appareil. .... (v) ______
(C) Elle pense à une calèche.

20 6. Write the following dictation in French. The passage will be read **three** times in French. **Do not** write during the first reading. The second reading will be at dictation speed, each group of words being repeated with punctuation given in French. This time you will write. The third reading will give you a chance to check what you have written.

Value

SECTION B

Dialogue

Do **ALL** items in this section as directed in each. Total value: 40 points (20%).

20 7. Write a short conversation (2-3 lines) for each of ten of the following expressions in order to show that you understand the meaning of each expression.

EXAMPLE

Expression: Que tu es bête!

Answer: — Jean, j'ai laissé mes clefs dans la voiture.
— Que tu es bête!

(a) occupé

____

____

____

(b) tout est mouillé

____

____

____

(c) en panne

____

____

____

(d) ça pue

____

____

____

(e) venir de

____

____

____

(f) tout à l'heure

____

____

____

(g) par un temps pareil

____

____

____

Value

(h) voir c'est croire

(i) jamais

(j) mettre de côté

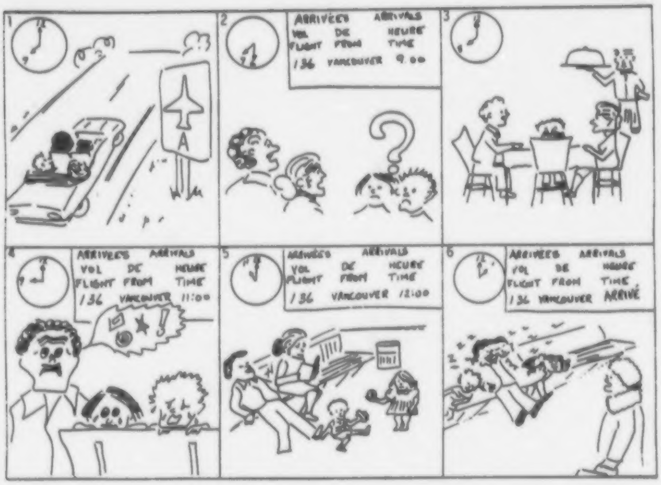
(k) de nos jours

(l) chaque

(m) ne vous en faites pas

(n) mettre à la porte

20 8. Write a dialogue for the following pictures. Your dialogue should be logical and coherent, and should be developed according to the images presented. Use at least 10 lines and not less than 50 words in total.


1
A
2
ARRIVEES ARRIVALS
VOL DE HEURE
FLIGHT FROM TIME
136 VANCOUVER 9.00
?
3
4
ARRIVEES ARRIVALS
VOL DE HEURE
FLIGHT FROM TIME
136 VANCOUVER 11:00
!
5
ARRIVEES ARRIVALS
VOL DE HEURE
FLIGHT FROM TIME
136 VANCOUVER 12:00
6
ARRIVEES ARRIVALS
VOL DE HEURE
FLIGHT FROM TIME
136 VANCOUVER ARRIVÉ

Value

SECTION C

Reading

Do **ALL** items in this section as directed in each. Total value: 50 points (25%).

20 9. From the vocabulary list below, choose the most appropriate word or phrase to complete each sentence following the list, and write your answer in the blank at the right. No word or phrase from the list need be used more than once.

EXAMPLE

Il a trois enfants; deux filles et un ______. .... (EX) ____fils____

VOCABULARY

fils
dont
gardé
sous
vite
laver
côté
sourd

démolie
laine
avenir
couteau
aveugle
bien sûr
fier
mangé

partout
être
triste
retard
soldat
poubelle
muet
permis

chandail
fâché
sucre
louer
goûter
portefeuille
fourchette

(a) Ton frère aime le hockey? ______ il va aux matchs tout le temps. .... (a)______________

(b) On conduit sur le ______ gauche en Angleterre. ...... (b)______________

(c) On coupe la viande avec un ______. .... (c)______________

(d) Marie est ______ parce que son ami est mort. .... (d)______________

(e) Il n'a pas d'argent. Il a perdu son ______. .... (e)______________

(f) C'est la femme ______ je vous ai parlé. .... (f)______________

(g) Il a eu un accident et il ne peut plus voir. Il est ______. (g)______________

(h) Je n'ai pas assez d'argent pour acheter une maison. Je dois ______ un appartement. .... (h)______________

(i) C'était vraiment un accident terrible. L'auto était complètement ______. .... (i)______________

(j) Quand il fait froid on porte un ______. .... (j)______________

(k) J'ai échoué à deux de mes examens et Papa n'est pas très ______ de moi. .... (k)______________

(l) Si on ne peut pas entendre on est ______. .... (l)______________

(m) Ma mère déteste ______ la vaisselle. .... (m)______________

(n) Dépêche-toi! Nous sommes déjà en ______. .... (n)______________

(o) Je ne peux pas conduire sans un ______. .... (o)______________

(p) Elle n'aime pas de ______ dans son café. .... (p)______________

(q) J'ai très faim. Je n'ai rien ______ aujourd'hui. .... (q)______________

(r) Mon grand-père était ______ pendant la guerre. ...... (r)______________

(s) Où est la chat? La voilà, ______ la table. .... (s)______________

(t) On a cherché Jean ______ mais on ne l'a pas trouvé. .. (t)______________

Value

10 10. Complete the following passage by writing an appropriate word in context in each blank.

Daniel n'avait jamais quitté le petit ____________________ où il habitait avec sa famille. Fils d'un fermier qui ne prenait pas de vacances, il restait ____________________ à la ferme, où il avait beaucoup de choses à faire.

C'____________________ sa mère qui avait dit qu'il devait accepter l'invitation de sa tante. Voilà pourquoi Daniel se trouvait dans le train qui allait bientôt ____________________ à Paris. Il se demande, "Comment sera la ____________________ dont on m'a si souvent parlé?"

11. Read the following passage, and answer in complete French sentences the questions which follow it.

L'astronaute

C'était le douze octobre. La famille Dubois était assise dans le salon après le dîner. Jacques leur racontait un film au sujet de Christophe Colomb qu'il a vu dans sa classe d'histoire. Son professeur a comparé à Christophe Colomb les astronautes américains, qui reviennent à la terra après leurs voyages fantastiques à la lune. Qu'ils sont courageux pour faire un tel° voyage dans le ciel!°

A ce moment-là, Jeannot, un enfant de six ans, a interrompu le récit de son frère.

— Je veux devenir astronaute, moi aussi, dit-il. Je n'ai peur ni d'aller dans la lune ni dans les planètes. J'irai même jusqu'au soleil.

— Mais Jeannot — a dit son père. Tu m'as dit que tu voudrais° être agent de police ou pompier° ou soldat. Maintenant tu veux être astronaute. Sais-tu que c'est un travail difficile et dangereux?

— Je n'aurai pas peur — le petit a répondu. Je suis plus brave que les autres astronautes. Je suis plus brave que Christophe Colomb même.

— Mon chou—a dit la mère. Je sais bien que tu es très courageux. Mais on ne peut pas aller sur le soleil parce qu'il y fait très chaud. C'est une boule de feu° et le feu te brûlera.° Comment pourras-tu te protéger contre les rayons du soleil?

— Je me couvrirai le corps d'une lotion. Je porterai des lunettes° de soleil comme toi, maman, quand nous allons à la plage.°

— Ce n'est pas assez de protection, mon chéri.

— J'ai une bonne idée — a dit le petit avec enthousiasme. Je ferai mon voyage la nuit.

2 (a) Qu'est-ce que Jacques a étudié à l'école?

____

____

____

3 (b) Pourquoi a-t-on parlé de Christophe Colombe ce jour-là?

____

____

____

2 (c) Où Jeannot veut-il aller?

____

____

____

Value

3 (d) Quel travail est dangereux?

5 (e) Qui est plus courageux que les astronautes?

5 (f) Pourquoi est-ce qu'un voyage au soleil est impossible?

SECTION D

Writing

Do **ALL** items in this section as directed in each. Total value: 50 points (25%).

10 12. Complete the following sentences by writing the verb indicated for each in the proper tense according to the context in which it is used.

EXAMPLE

(finir) Il ___finit___ maintenant.

(a) (finir) Hier soir, j(e) __________ mes devoirs à sept heures.

(b) (arriver) Jean et Marie __________ dans cinq minutes.

(c) (aider) Tiens! J'ai cassé ma jambe. __________-moi, s-il te plait!

(d) (aller) Elles __________ au cinéma tous les samedis.

(e) (partir) Nous __________ tout à l'heure pour l'école.

(f) (avoir) Je suis heureux que tu __________ ce livre.

(g) (faire) S'il avait le temps, il le __________.

(h) (sortir) Elle __________ déjà __________ quand je suis arrivé.

(i) (venir) Il a dit qu'il __________.

(j) (rendre) L'année passée nous __________ visite à nos grands-parents.

Value

20 13. Develop each of the following into a meaningful sentence.

(a) Quand je me lève, ______________________________

(b) A la banque ______________________________

(c) L'été passé ______________________________

(d) Si seulement j'avais le temps ______________________________

(e) Au Canada ______________________________

(f) On met le clignotant ______________________________

(g) Je n'aime pas lire, mais ______________________________

(h) A l'avenir ______________________________

(i) C'est la rentrée, et les élèves ______________________________

(j) On peut obtenir ______________________________

20 14. Prepare a composition (about 150 words in French) using the details provided as a guideline. The content of your composition need not be factual, but the composition should be well-organized and coherent. The outline given should be used only as a guide. You are expected to expand on these points and add others of your own to make your composition interesting and complete. Choose one of the following topics.

(a) **Mes Projets d'Avenir**
— Que feriez-vous après l'école?
— L'université? Un travail? Les avantages!
— Comment votre vie, changera-t-elle?
— Quelle carrière avez-vous choisie? Pourquoi?

(b) **Ma saison préférée**
— quelle saison
— les activitiés que vous faites
— le temps qu'il fait
— les sports que vous faites

(c) **Mon Épreuve de Conduite**
— Où l'avez-vous passée?
— Qu'est-ce qu'on vous a demandé de faire?
— les difficultés
— l'avantage d'avoir un permis de conduire

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

FRENCH 3201

NOVEMBER 1989

Value: 100 marks

Time: 3 hours

Examination Number ________________

GENERAL INSTRUCTIONS

1. The examination consists of seven items, and candidates are required to do **ALL** items as directed in each.
2. All answers are to be written on this paper. Do not use allotted answer spaces for rough drafts which you may wish to discard.
3. Be sure to write your Examination Number in the space above.

REGULATIONS FOR CANDIDATES

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- Materials required
- Materials not permitted
- Use of handheld calculator
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- Use of answer booklets
- Completion of required information
- Use of unauthorized means, and penalties

Value

5 1. Lire le passage et écrire la lettre A, B, ou C, dans le tiret pour identifier le synonyme de l'expression soulignée.

(a) Son plus grand **défault** est le ténacité.

Dans ce passage, on considère la ténacité comme. .... (a) ______
(A) une bonne qualité
(B) un vice
(C) un gaspillage

(b) Quand les garçons ont fait des grimaces, le petit Paul **s'est mis à pleurer.**

Dans ce passage, le petit Paul .... (b)______
(A) a refusé de pleurer
(B) a essayé de pleurer
(C) a commencé à pleurer

(c) Québec, c'est à la fois un site, une histoire, un mode de vie, une capitale. On y vient donc pour la beauté des lieux, pour retrouver ses **origines** et le sens de son destin.

Dans ce passage, on vient à Québec pour retrouver .... (c) ______
(A) ses racines
(B) soi-même
(C) ses intérêts

(d) Les enfants pauvres arrivent **parfois** à l'école avec des douleurs dans l'estomac. La veille, ils ont eu froid dans leur logement.

Dans ce passage, les élèves sont malades .... (d) ______
(A) quelquefois
(B) toujours
(C) tout de suite

(e) Quand ils sont arrivés à la conférence il y avait déjà **du monde.**

Dans ce passage, à leur arrivée ils ont trouvé .... (e) ______
(A) de la nourriture
(B) du travail
(C) des gens

5 2. Lire le passage et répondre à l'étude des mots.

> En dépit du nombre de plus en plus grand de mariages se terminant en divorce (15%), le mariage reste un acte essentiel dans la vie des jeunes Français. L'âge moyen des **jeunes** mariés est de vingt-quatre ans pour les hommes et vingt-deux ans pour les femmes. En général ils prennent le temps de se connaître avant de se marier. Selon les statistiques officielles, la majorité des jeunes Français choisissent de se marier à l'église, mais beaucoup le font parce que leurs parents le **désirent.**

Trouver dans le passage le contraire des expressions suivants et écrire les réponses dans les espaces à droite.

(a) après .... (a)________________

(b) commençant .... (b)________________

(c) peu .... (c)________________

Donner un mot de la même famille que le mot soiligné et écrire ces mots dans les espaces à droite.

(d) des **jeunes** mariés .... (d)________________

(e) leurs parents le **désirent** .... (e)________________

Value

10 3. Lire le passage et écrire les mots qui manquent pour le compléter dans les espaces ci-dessous.

L'image de la Femme Véhiculée par les Média

De nos jours les femmes sont appelées à travailler pendant une bonne partie de leur vie. En effet, les statistiques compilées semblent indiquer __(a)__ le mariage ne constitue plus un obstacle au travail hors de la __(b)__. De plus, les __(c)__ ne constituent plus un empêchement pour réintégrer le marché du travail. De plus en plus de __(d)__ doivent maintenant toucher un salaire pour subvenir à leurs propres besoins et à ceux de leur famille.

Malgré cela, les médias ont tendance à représenter la femme dans un __(e)__ traditionnel. Les médias ont aujourd'hui, autant d'influence que la famille et l'école. On se demande pourquoi continuent-ils à montrer des __(f)__ faux sur les femmes?

En général, les stéréotypes __(g)__ presentés dans les médias ne sont pas conformés à la __(h)__ des "femmes d'aujourd'hui". Les femmes sont présentées en général comme des __(i)__ et des ménagères, tandis que les __(j)__ assument une variété d'occupations. En réalité, les femmes constituent la moitié de la population active salariée.

(a) ______________________________

(b) ______________________________

(c) ______________________________

(d) ______________________________

(e) ______________________________

(f) ______________________________ ___

(g) ______________________________

(h) ______________________________

(i) ______________________________

(j) ______________________________

4. Lire le passage et répondre aux questions en phrases complètes. Autant que possible, les réponses ne devraient pas être copiées directment du passage.

Le Fossé des Générations

Le conflit entre les adultes et les jeunes ... le fossé des générations ... cela a toujours existé, cela existe maintenant cela existera à l'avenir.

D'une part, on a les adultes avec toute leur expérience, ce qui leur donne une certaine façon de voir les choses. Et ils sont aussi responsables du bien-être de leurs enfants. Par conséquent, ils leur imposent de nombreuses règles de comportement.

D'autre part, on a les jeunes qui recherchent l'indépendance et la liberté. Ils ne veulent pas être une copie exacte des adultes. Ils veulent trouver ou inventer une manière de vivre qui ne soit pas celle des adultes, mais le leur.

Voilà un vrai problème! En même temps que les jeunes recherchent leur liberté ils sont dépendants des adultes. Ce sont les adultes, les parents, qui leur donnent leur chambre, et leur nourriture, qui payent leurs vêtements et leur éducation.

Les jeunes doivent être comme les adultes avant de devenir l'âge des adultes. A cet âge ils ont le droit d'agir seul et de décider eux-mêmes de qu'ils vont faire. Pas avant!

Avant de devenir cet âge, les jeunes, bien qu'ils soient forcés d'accepter les règles des adultes, protègent leur individualité autant que possible. Ils forment leur propre groupe. Ils établissent une mode de vêtements différente de celle de leurs parents, une coupe de cheveux qui est pour eux, une musique rock "spéciale", un argot avec des expressions extrêmes, des magazines qui traitent de leurs intérêts et de leurs problèmes.

En formant leur propre groupe les jeunes se protègent, mais ils créent en même temps le fossé des générations. Mais ce fossé leur permet de montrer aux adultes qu'ils sont capables, qu'ils ont des idées valables, qu'ils ont quelque chose à contribuer à la société.

---

4 (a) Pourquoi est-ce que c'est difficile pour les adultes et les jeunes de se comprendre?

____

____

____

Value

5 (b) Qu'est-ce que les jeunes cherchent dans la vie?

5 (c) Comment est-ce que les jeunes protègent leur individualité?

5 (d) D'après vous, comment est-ce que les jeunes créent le fossé des générations?

5 (e) Pensez-vous qu'un fossé des générations existe aujourd'hui? Commentez.

5. Lire le poème et répondre aux questions en phrases complètes.

L'Age de Raison
par
Francis Blanche
(Mon Cousin et Moi)

La ville écrase la forêt
pour y installer son décor
sans songer au bruit que ferait
le chant de tous les oiseaux morts

On cimente les paysages
on bétonne les horizons
Nous voici arrivés à l'âge
de raison

Le petit sentier de l'école
est une autoroute à six voies
que mène à la piste d'envol
où les Boeings hurlent de joie

Value

Il y a du goudron sur la plage
et du gas-oil sur le gazon
Nous voici arrivés à l'âge
de raison

Les décibels nous assassinent
les scooters nous bouffent le coeur
et la télé dans nos cuisines
Nous explique notre bonheur

Quand on veut rêver, les nuages
ont la forme de champignons
Nous voici arrivés à l'âge
de raison

Rien à faire petit bonhomme
mets ta tête sous l'oreiller

Tiens-toi tranquille reste sage
enfoui au creux de ta maison
et laisse, laisse passer l'âge
de raison

2 (a) A quelles formes de pollution l'auteur fait-il illusion?

2 (b) Quels problèmes le progrès a-t-il posé dans la vie que le poète décrit dans ce poème?

2 (c) Selon le poète, qu'est-ce qu'on peut faire en ce qui concerne les problèmes de la vie moderne?

(d) Choisir **DEUX** des questions suivantes et répondre à ces questions.

6 (i) Que pensez-vous de la pollution dans le monde?

Value

6 (ii) Expliquez pourquoi le poète parle de l'âge de raison.

6 (iii) À votre opinion, quel est le problème le plus sérieux de la vie modérne?

6 (iv) Que peut-on faire, à votre avis, pour que les choses changent?

6. Choisir **TROIS** des points de vue suivants et faire un commentaire en quarante à cinquante mots (40 à 50) pour chacun.

6 (a) Il est important d'avoir des amis.

6 (b) L'argent fait le bonheur.

Value

6 (c) Le chanson québécoise reflète la réalité de la vie canadienne-française.

6 (d) Partir, c'est mourir, un peu.

6 (e) La santé est plus importante que la richesse.

Value

6 (f) La femme canadienne est libre.

20 7. Choisir UN de ces sujets suivants et écrire une composition de 150 à 170 mots.

(a) Pourquoi apprendre une autre langue?

(b) La poésie et la chanson ... deux moyens excellents de s'exprimer.

(c) La femme d'aujourd'hui et la femme d'hier ... une comparaison.

(d) Les choses que j'aime le mieux dans ma jeunesse.

(e) Le Québec: pays ou province?

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

ELECTRONICS 3104

NOVEMBER 1989

Value: 100 marks

Time: 2 hours

Examination Number ____________________

GENERAL INSTRUCTIONS

1. The examination consists of objective and essay items, arranged in three sections as follows, and candidates are required to do **ALL** sections as directed in each:

   SECTION A — 50 multiple-choice items — 50%
   SECTION B — short answer items — 20%
   SECTION C — short answer essay items — 30%

2. All answers are to be written in this paper. Do not use allotted answer spaces for rough drafts which you may wish to discard.

3. Be sure to write your Examination Number in the space provided above.

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Value

SECTION A

Write the letter of the correct response for each of the following in the blank at the right. Total value: 50%.

1. Electric current flow is defined as the movement of which of the following? (1) ________
   (A) protons
   (B) neutrons
   (C) free electrons
   (D) bound electrons

2. What will happen to the total resistance in a circuit if resistors are connected in series? .... (2) ________
   (A) decreases
   (B) increases
   (C) remains the same
   (D) cannot be determined

3. Which of the following is Ohm's Law formula for calculating current? ... (3) ________
   (A) I = R/E
   (B) I = RE
   (C) I = E/R
   (D) I = E + R

4. Through which of the following materials would an electric current flow readily? .... (4) ________
   (A) insulator
   (B) conductor
   (C) semi conductor
   (D) positive material

5. Which of the following conditions must be present for current to flow through a vacuum diode? .... (5) ________
   (A) AC voltage applied to the heater
   (B) a small positive voltage on the grid
   (C) the cathode negative and the anode positive
   (D) the cathode positive and the anode negative

6. What are the units of measurement for the EMF of a circuit? .... (6) ________
   (A) ohms
   (B) volts
   (C) amperes
   (D) watts

7. Which of the following terms best describes the ability of a battery to produce a current over a certain period of time? .... (7) ________
   (A) capacity
   (B) ampere-hour
   (C) charging rate
   (D) discharge time

8. What type of cells is found in the automobile battery? .... (8) ________
   (A) dry
   (B) wet
   (C) voltaic
   (D) nickel cadium

9. What will happen if the size of the plates in a battery is increased? ...... (9) ________
   (A) a voltage increase
   (B) a current capacity increase
   (C) an internal resistance increase
   (D) no change in the battery

10. What is the value of a resistor having a colour code of orange, orange, red and silver? .... (10)________
    (A) 330 ohms ± 10%
    (B) 330 ohms ± 5%
    (C) 3300 ohms ± 5%
    (D) 3300 ohms ± 10%

11. What is the total resistance (in ohms) of a series circuit with four resistors of 2.5 ohms each? .... (11)_______
(A) 2.5
(B) 10
(C) 25
(D) 100

12. What is the function of a capicitor? .... (12)_______
(A) to block AC and DC
(B) to pass AC and DC
(C) to block AC and pass DC
(D) to block DC and pass AC

13. In which type of circuit is there more than one path for current to flow? . (13)_______
(A) series
(B) parallel
(C) inductive
(D) combination

14. What is the value of the load resistor in a circuit (in ohms) where 100 volts is applied and 2 ma flows through the load resistor? .... (14)_______
(A) 50
(B) 500
(C) 5000
(D) 50,000

15. What is the unit of measurement of inductance? .... (15)_______
(A) ohm
(B) mho
(C) farad
(D) henry

16. To measure current in a circuit, how must the ammeter be connected? ... (16)_______
(A) close to the battery
(B) in series with the resistor
(C) in parallel with the resistor
(D) in any fashion, so long as the terminals fit

17. Why is an FM system superior to an AM system? .... (17)_______
(A) It is noise free.
(B) It has more power.
(C) It has longer range.
(D) It is more efficient.

18. For which of the following is the ampere the unit of measurement? ...... (18)_______
(A) EMF
(B) current
(C) resistance
(D) inductance

19. Two new dry cells are connected in series, and three additional pairs of cells are similarly connected. When the four pairs are placed in parallel, what is the measure of the output voltage (in volts)? .... (19)_______
(A) 0.5
(B) 1.5
(C) 3.0
(D) 4.5

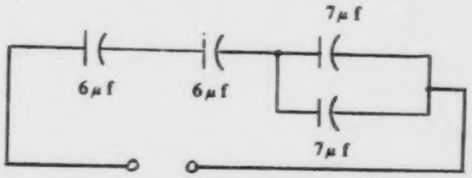
20. Compared with the battery that is charging, how much voltage must a battery charger deliver? .... (20)_______
(A) lower DC voltage
(B) lower AC voltage
(C) higher DC voltage
(D) higher AC voltage

21. When a fuse is placed in a circuit, how is it connected? .... (21)_______
(A) in series with the load
(B) in parallel with the load
(C) in series-parallel with the load
(D) in series or parallel, depending on the circuit

22. What is the unit of measurement of capacitive reactance? .... (22)______
(A) ohm
(B) hertz
(C) henry
(D) farad

23. What piece of test equipment is most used by electronic technicians? ..... (23)______
(A) ammeter
(B) oscilloscope
(C) multimeter
(D) transistor tester

24. What is the total capacitance (in microfarads) of the circuit below? ...... (24)______
(A) 2.47
(B) 17
(C) 20
(D) 26



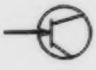
25. Indium, gallium and boron are examples of which of the following? ..... (25)______
(A) trivalents
(B) pentavalents
(C) minority carriers
(D) majority carriers

26. What is a drawing called that shows the various connections to components, devices and switches in electric circuits? .... (26)______
(A) electronic drawing
(B) electrical drawing
(C) schematic drawing
(D) architectural drawing

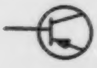
27. What is the process of combining or superimposing an audio wave on a radio frequency wave? .... (27)______
(A) modulation
(B) amplification
(C) transmission
(D) reception

28. Which of the following is a schematic symbol for an NPN transistor? ... (28)______

(A)



(C)



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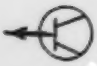
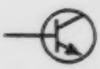


(D)



29. What type of equipment is used to place a radio wave into the air? ...... (29)______
(A) recorder
(B) receiver
(C) transmitter
(D) transceiver

30. What substances are most commonly used in transistors? .... (30)______
(A) brass and iron
(B) silver and iron
(C) germanium and silver
(D) aluminum and magnesium

31. How do transistors differ from vacuum tubes? .... (31)________
(A) no heater
(B) one heater
(C) two heaters
(D) three heaters

32. The semiconductor diode results from the fusion of which of the following? (32)________
(A) A-type crystal to a P-type crystal
(B) A-type crystal to an N-type crystal
(C) N-type crystal to a P-type crystal
(D) Z-type crystal to an A-type crystal

33. What is the function of a filter in a DC power supply? .... (33)________
(A) protects the load from over voltage surges
(B) minimizes the ripple voltage on the DC output
(C) ensures only positive voltage is delivered to the load
(D) removes spikes of the wrong polarity from the power supply output

34. What is the frequency range for an FM commercial broadcast station? ... (34)________
(A) 55 - 1600 khz
(B) 55 - 1600 Mhz
(C) 88 - 108 khz
(D) 88 - 108 Mhz

35. Which of the following statements about the capacity of a capacitor are **TRUE**? (35)________
(A) increases when the area of the plates increases
(B) increases when the area of the plates decreases
(C) increases when the distance between the plates decreases
(D) decreases when the distance between the plates increases

36. What is the usual IF frequency (in khz) in broadcast receivers? .... (36)________
(A) 108
(B) 455
(C) 550
(D) 1600

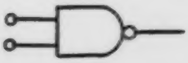
37. What is the binary number for 14? .... (37)________
(A) 1010
(B) 1110
(C) 1011
(D) 1111

38. What type of transformers do not have any electrical connection between the secondary windings and the primary windings? .... (38)________
(A) step-up
(B) step-down
(C) isolation
(D) centre tap

39. What are the three colour guns used in a colour television set? .... (39)________
(A) red, blue, yellow
(B) red, blue, green
(C) yellow, blue, green
(D) red, yellow, green

40. How is the picture seen on a TV picture tube presented? .... (40)________
(A) all at once as from a slide projector
(B) one line at a time from the top down
(C) one line at a time from left to right
(D) by a beam that moves at random as would a pencil tracing a sketch

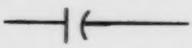
41. Which logic gate is represented by the following symbol? .... (41)________



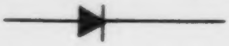
(A) OR
(B) AND
(C) NOR
(D) NAND

42. Which of the following is a schematic symbol for a resistor? .... (42)______

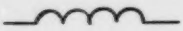
(A)



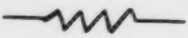
(C)



(B)



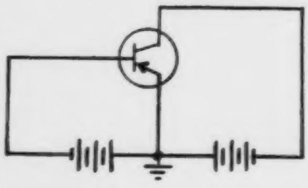
(D)



43. When does an OR gate produce a binary "one" at the output? .... (43)______
(A) when both inputs are at "zero"
(B) when either input is at "one"
(C) only when the voltage is in excess of 100 v
(D) only when the current is positive

44. What is the decimal equivalent for the binary number 101010? .... (44)______
(A) 6
(B) 24
(C) 42
(D) 79

45. Which of the following schematics is illustrated in the diagram below? ... (45)______
(A) common base circuit
(B) common emitter circuit
(C) common collector circuit
(D) floating ground circuit



46. Before using an ohmmeter, the test prods should be shorted together and the calibrating rheostat adjusted. What should the meter read? .... (46)______
(A) infinity
(B) zero ohms
(C) 100 ohms, the base reading
(D) midway between zero and infinity

47. A person can receive a severe shock by touching the chassis and the water pipe or ground when a television is plugged into an AC outlet. What type of transformer can be used to prevent this from happening? .... (47)______
(A) power
(B) auto
(C) filament
(D) isolation

48. What is the resistor called that is used to discharge filter capacitors and to improve voltage regulation? .... (48)______
(A) filter
(B) reactor
(C) bleeder
(D) voltage control

49. Which of the following is a very small piece of silcon containing transistors, and possibly diodes resistors or capacitors? .... (49)______
(A) integrated circuit
(B) silcon controlled rectifier
(C) field effect transistor
(D) photoelectric cell

50. Which of the following statements is **TRUE** concerning a series circuit? .. (50)______
(A) Voltage is constant throughout the circuit.
(B) The sum of the branch currents is equal to the total current.
(C) The sum of the individual voltage drops is equal to the applied voltage.
(D) The difference between the branch currents depends on the size of the resistors.

Value

SECTION B

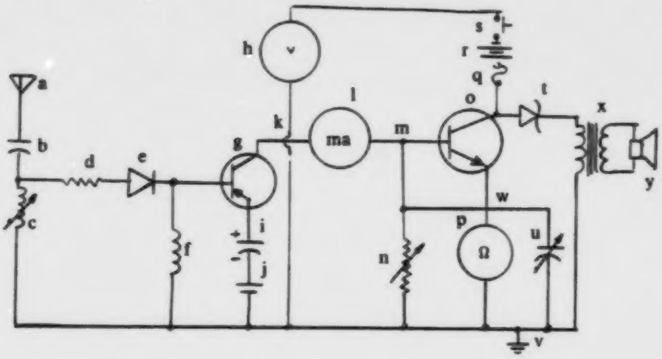
Do **ALL** items in this section as directed in each. Total value: 20%.

10. 51. Draw the correct schematic symbol for the following electronic components:

(a) Diode (Power)	(f) Resistor
(b) Neon Bulb	(g) Capacitor (Electrolytic)
(c) Speaker	(h) PNP Transistor
(d) SPST Switch	(i) Voltage Regulator
(e) Transformer (Audio)	(j) Battery (9 v)

Value

10 52. In the spaces below, identify any **TWENTY** of the symbols lettered (a-y) in the following schematic.


a
b
c
d
e
f
g
h
v
i
+
-
j
k
l
ma
m
n
o
p
Ω
q
r
s
t
u
v
w
x
y

(a) ______________________

(b) ______________________

(c) ______________________

(d) ______________________

(e) ______________________

(f) ______________________

(g) ______________________

(h) ______________________

(i)______________________

(j)______________________

(k) ______________________

(l)______________________

(m) ______________________

(n) ______________________

(o) ______________________

(p) ______________________

(q) ______________________

(r) ______________________

(s) ______________________

(t)______________________

(u) ______________________

(v) ______________________

(w) ______________________

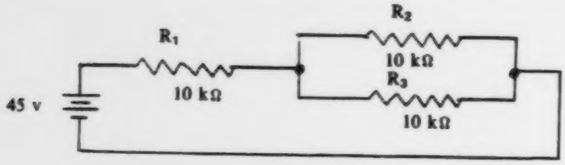
(x) ______________________

(y) ______________________

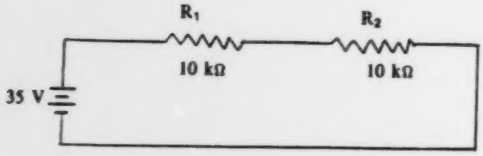
SECTION C

Do **ALL** items in this section as directed in each. Write your responses in the spaces on this paper. Total value: 30%.

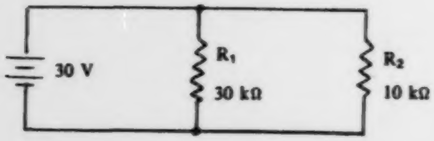
5 53. (a) Calculate the current flowing through R_3 in the following circuit:


R$_2$
R$_1$
10 kΩ
R$_3$
45 v
10 kΩ
10 kΩ

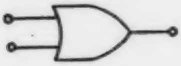
Value
5 (b) Calculate the voltage drop across R_2 in the following circuit:


R$_1$
R$_2$
10 kΩ
10 kΩ
35 V

5 (c) Calculate the power dissipated across R_2 in the following circuit.


30 V
R$_1$
30 kΩ
R$_2$
10 kΩ

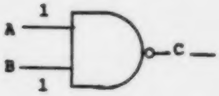
5 54. (a) Complete the truth table for the following logic circuit:



Truth Table

A	B	C

5 (b) Complete the truth table for the following logic circuit:



Truth Table

A	B	C

5 (c) If you were planning a career in electronics, give a brief description of how you would go about it.

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

STATISTICS 3104

NOVEMBER 1989

PART I

Value: 40 marks

Time: 45 minutes

Examination Number ________________

GENERAL INSTRUCTIONS

1. Part I consists of objective items only, arranged in two sections, as follows:

   SECTION A — 20 completion items — 20%
   SECTION B — 20 multiple-choice items — 20%

2. Candidates are to do all items, and answers are to be written in this paper.

3. A list of statistics formulae and a table for the area under the standard normal curve are provided for your reference, and calculators may be used if desired.

4. Be sure to write your Examination Number in the space above.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the Chief Supervisor prior to the first session, and have been posted for further reference near the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

- Materials required
- Materials not permitted
- Use of handheld calculator
- Use of pen or pencil
- Communication and movement during the examination
- Punctuality
- Leaving the room
- Use of answer booklets
- Completion of required information
- Use of unauthorized means, and penalties

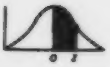


TABLE FOR THE AREA UNDER THE STANDARD NORMAL DISTRIBUTION CURVE

z score	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.0000	0.0040	0.0080	0.0120	0.0160	0.0199	0.0239	0.0279	0.0319	0.0359
0.1	0.0398	0.0438	0.0478	0.0517	0.0557	0.0596	0.0636	0.0675	0.0714	0.0754
0.2	0.0793	0.0832	0.0871	0.0910	0.0948	0.0987	0.1026	0.1064	0.1103	0.1141
0.3	0.1179	0.1217	0.1255	0.1293	0.1331	0.1368	0.1406	0.1443	0.1480	0.1517
0.4	0.1554	0.1591	0.1628	0.1664	0.1700	0.1736	0.1772	0.1808	0.1844	0.1879
0.5	0.1915	0.1950	0.1985	0.2019	0.2054	0.2088	0.2123	0.2157	0.2190	0.2224
0.6	0.2257	0.2291	0.2324	0.2357	0.2389	0.2422	0.2454	0.2486	0.2518	0.2549
0.7	0.2580	0.2612	0.2642	0.2673	0.2704	0.2734	0.2764	0.2794	0.2823	0.2852
0.8	0.2881	0.2910	0.2939	0.2967	0.2995	0.3023	0.3051	0.3078	0.3106	0.3133
0.9	0.3159	0.3186	0.3212	0.3238	0.3264	0.3289	0.3315	0.3340	0.3365	0.3389
1.0	0.3413	0.3438	0.3461	0.3485	0.3508	0.3531	0.3554	0.3577	0.3599	0.3621
1.1	0.3643	0.3665	0.3686	0.3708	0.3729	0.3749	0.3770	0.3790	0.3810	0.3830
1.2	0.3849	0.3869	0.3888	0.3907	0.3925	0.3944	0.3962	0.3980	0.3997	0.4015
1.3	0.4032	0.4049	0.4066	0.4082	0.4099	0.4115	0.4131	0.4147	0.4162	0.4177
1.4	0.4192	0.4207	0.4222	0.4236	0.4251	0.4265	0.4279	0.4292	0.4306	0.4319
1.5	0.4332	0.4345	0.4357	0.4370	0.4382	0.4394	0.4406	0.4418	0.4429	0.4441
1.6	0.4452	0.4463	0.4474	0.4484	0.4495	0.4505	0.4515	0.4525	0.4535	0.4545
1.7	0.4554	0.4564	0.4573	0.4582	0.4591	0.4599	0.4608	0.4616	0.4625	0.4633
1.8	0.4641	0.4649	0.4656	0.4664	0.4671	0.4678	0.4686	0.4693	0.4699	0.4706
1.9	0.4713	0.4719	0.4726	0.4732	0.4738	0.4744	0.4750	0.4756	0.4761	0.4767

z score	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
2.0	0.4772	0.4778	0.4783	0.4788	0.4793	0.4798	0.4803	0.4808	0.4812	0.4817
2.1	0.4821	0.4826	0.4830	0.4834	0.4838	0.4842	0.4846	0.4850	0.4854	0.4857
2.2	0.4861	0.4864	0.4868	0.4871	0.4875	0.4878	0.4881	0.4884	0.4887	0.4890
2.3	0.4893	0.4896	0.4898	0.4901	0.4904	0.4906	0.4909	0.4911	0.4913	0.4916
2.4	0.4918	0.4920	0.4922	0.4925	0.4927	0.4929	0.4931	0.4932	0.4934	0.4936
2.5	0.4938	0.4940	0.4941	0.4943	0.4945	0.4946	0.4948	0.4949	0.4951	0.4952
2.6	0.4953	0.4955	0.4956	0.4957	0.4959	0.4960	0.4961	0.4962	0.4963	0.4964
2.7	0.4965	0.4966	0.4967	0.4968	0.4969	0.4970	0.4971	0.4972	0.4973	0.4974
2.8	0.4974	0.4975	0.4976	0.4977	0.4977	0.4978	0.4979	0.4979	0.4980	0.4981
2.9	0.4981	0.4982	0.4982	0.4983	0.4984	0.4984	0.4985	0.4985	0.4986	0.4986
3.0	0.4987	0.4987	0.4987	0.4988	0.4988	0.4989	0.4989	0.4989	0.4990	0.4990
3.1	0.4990	0.4991	0.4991	0.4991	0.4992	0.4992	0.4992	0.4992	0.4993	0.4993
3.2	0.4993	0.4993	0.4994	0.4994	0.4994	0.4994	0.4994	0.4995	0.4995	0.4995
3.3	0.4995	0.4995	0.4995	0.4996	0.4996	0.4996	0.4996	0.4996	0.4996	0.4997
3.4	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4998
3.5	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998
3.6	0.4998	0.4998	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999
3.7	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999
3.8	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999
3.9	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000

FORMULAE

$$\overline{X} = \frac{1}{n} \sum_{i=1}^{n} X_i$$

$$\overline{X} = \frac{\sum_{i=1}^{n} X_i \bullet F(X_i)}{\sum_{i=1}^{n} F(X_i)}$$

$$Z = \frac{x - \mu}{\sigma}$$

$$S_X = \sqrt{\frac{\sum_{i=1}^{n} (X_i - \overline{X})^2 \bullet F(X_i)}{\sum_{i=1}^{n} F(X_i)}}$$

$$\text{Mean Deviation} = \frac{\sum_{i=1}^{n} |X - \overline{X}|}{n}$$

$$S_X = \sqrt{\frac{\sum_{i=1}^{n} (X_i - \overline{X})^2}{n}}$$

$$\text{Skewness} = \frac{3\,(\text{mean} - \text{median})}{\sigma}$$

Value

SECTION A

Do **ALL** of the following by writing the correct response for each in the blank at the right. Total value: 20%.

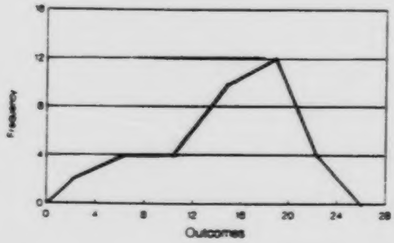
1. What type of random sampling would be used to determine the television viewing habits of all Canadians? .... (1) ______________

2. What type of probability is used to describe two events that are dependent on each other? .... (2) ______________

3. If the occurrence of an event is a certainty, what is the probability of its happening? .... (3) ______________

4. What is the term used to denote a non-symmetrical distribution? .... (4) ______________

DO ITEMS 5 AND 6 BASED ON THE FIGURE BELOW.



5. Calculate F(14) .... (5) ______________

6. What is the range of F? .... (6) ______________

7. Four balls numbered 1, 2, 3, and 4 are placed in a bag and one is drawn. What is the probability that it is a 4? ..... (7) ______________

8. What does mean, median and mode measure? .... (8) ______________

9. What term is used to describe a sample taken from a particular segment of the population? .... (9) ______________

10. In a group of 13 numbers, the average is 15. How much must be added to the largest number to get a mean of 16? .... (10) ______________

11. There are 10 red balls, 10 yellow balls, 10 green balls, and 10 blue balls in a bag. If two balls are picked (and not returned) what is the probability of both being red? .... (11) ______________

12. In what type of statistics is learning to organize data very important? .... (12) ______________

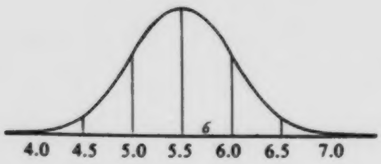
13. On rolling a single die, what are the odds in favour of getting a 3? .... (13) ______________

14. What is the Pearsonian coefficient for skewness when the median is 4, the mean is 5, and the standard deviation is 2? . (14) ______________

15. What is the total number of possible outcomes when two coins are tossed and a die is rolled? .... (15) ______________

DO ITEMS 16, 17 AND 18 BASED ON THE FIGURE BELOW

Normal Distribution of Time Needed
to Process an Application



16. What is the standard deviation of the above distribution? (16)________________

17. What percent of the applications are processed in less than 6.0 minutes? .... (17)________________

18. If there were 500 applications, how many would be expected to be processed in less than 5.0 minutes? .... (18)________________

19. For a normal distribution, $\mu = 30$ and $\sigma = 4$. Find the z-score for 25. .... (19)________________

20. Use the table for area under the normal curve to determine $P(0.9 \leq z \leq 3.8)$. .... (20)________________

SECTION B

Do ALL of the following by writing the letter of the correct response for each in the blank at the right. Total value: 20%.

21. What kind of sampling would be best suited to testing the quality of car tires? (21)________
    (A) biased
    (B) clustered
    (C) destructive
    (D) stratified

22. What is the shape of the distribution of ages for all pupils in a primary school? (22)________
    (A) leptokurtic
    (B) mesokurtic
    (C) positively skewed
    (D) negatively skewed

23. Which of the following events is an example of theoretical probability? .. (23)________
    (A) having a dry summer this year
    (B) rolling a 2 on a die
    (C) the Toronto Maple Leafs' winning the Stanley Cup in 1990
    (D) passing Statistics 3104

24. When two dice are rolled, which of the following is most likely to occur? (24)________
    (A) a sum of seven
    (B) a sum of either 4 or 9
    (C) an even sum
    (D) a sum greater than seven

25. Which statistic is illustrated by the following statement: "Elvis Presley was the world's greatest recording artist"? .... (25)______
(A) mean
(B) mean deviation
(C) median
(D) mode

26. Three coins are tossed. What is the probability of tossing two tails and a head (in that order)? .... (26)______
(A) 1/8
(B) 1/4
(C) 3/8
(D) 1/2

27. What is the difference between the greatest and the smallest values in a sample called? .... (27)______
(A) class limit
(B) class width
(C) domain
(D) range

28. What is the median of the following set of scores? .... (28)______

Score x_i	1	2	3	4	5	6
Frequency $f(x_i)$	2	2	4	4	2	1

(A) 3
(B) 4
(C) 5
(D) 6

29. Which type of survey is likely to yield the most reliable results? .... (29)______
(A) newspaper poll
(B) postal questionnaire
(C) phone-in survey
(D) personal survey

30. A population has a normal distribution with mean μ and standard deviation σ. What percent of the population lies in the interval $\mu - \sigma$ and $\mu + 2\sigma$? (30)______
(A) 47.5
(B) 68
(C) 81.5
(D) 95

31. For a standard normal distribution, what is the probability that the z-score is negative? .... (31)______
(A) -0.5
(B) -0.25
(C) 0.25
(D) 0.5

32. What is the name given to the process used to predict your final mark on this Statistics exam by using the scores from your year's work? .... (32)______
(A) extrapolation
(B) interpolation
(C) random sampling
(D) biased sampling

33. Given the skewness of a curve to be -2, which of the following is **TRUE** of the graph? .... (33)______
(A) skewed to the left
(B) skewed to the right
(C) a peaked symmetrical curve
(D) a flat symmetrical curve

34. Which of the following must always appear in a set of data values? ..... (34)______
(A) mean
(B) median
(C) mode
(D) range

35. For two independent events, A and B, what is P(A and B)? .... (35)________
(A) P(A) + P(B)
(B) $\frac{P(A) + P(B)}{2}$
(C) P(A) − P(B)
(D) P(A) × P(B)

36. Which of the following is **TRUE** for the mean in a positively skewed distribution? .... (36)________
(A) larger than the mode
(B) less than the median and the mode
(C) between the mode and the median
(D) equal to the median and the mode

37. Based on the data in the following chart, how many kilometres would you expect to travel after using 30 litres of gas? .... (37)________

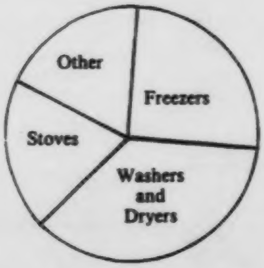
litres of gasoline used	5	7	9	15	19
kilometres travelled	26.3	39.8	54.2	94.3	124.1

(A) 6.2
(B) 7.8
(C) 158.3
(D) 203.7

38. What is the sum of the deviations from the mean?...................... (38)________
(A) less than 0
(B) greater than 1
(C) equal to 0
(D) equal to 1

39. In a senior high school with a population of 500, there are 200 students in Grade 10, 160 in Grade 11, and 140 in Grade 12. 50 students were to be interviewed on the format of a school newspaper. If equal representation is to be given to all classes, how many should be interviewed from Grade 12? .... (39)________
(A) 7
(B) 8
(C) 10
(D) 14

40. If the sector angle for freezers in the appliance sales chart below were 90°, what would be the sales from freezers in a month in which total sales was $142 620?.. (40)________
(A) $25 655
(B) $30 655
(C) $35 655
(D) $40 655



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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

STATISTICS 3104

NOVEMBER 1989

PART II

Value: 60 marks

Time: 1 hour, 15 minutes

GENERAL INSTRUCTIONS

1. Part II consists of essay items only arranged in two sections with requirements as follows:

   SECTION A — Do ALL items as directed — 45%
   SECTION B — Do any ONE complete item — 15%

2. A list of statistics formulae and a table for the area under the standard normal distribution curve are provided for your reference, and calculators may be used if desired. Also, two sheets of graph paper are provided for your use as directed within.

3. Candidates are reminded to show all necessary steps and calculations as credit may be given for incomplete or partially correct solutions. Correct answers without calculations will not merit full marks. Candidates using calculators are especially reminded of this requirement.

4. Answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

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- Materials not permitted
- Use of handheld calculator
- Use of pen or pencil
- Communication and movement during the examination
- Punctuality
- Leaving the room
- Use of answer booklets
- Completion of required information
- Use of unauthorized means, and penalties

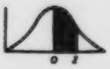


TABLE FOR THE AREA UNDER THE STANDARD NORMAL DISTRIBUTION CURVE

z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.0000	0.0040	0.0080	0.0120	0.0160	0.0199	0.0239	0.0279	0.0319	0.0359
0.1	0.0398	0.0438	0.0478	0.0517	0.0557	0.0596	0.0636	0.0675	0.0714	0.0753
0.2	0.0793	0.0832	0.0871	0.0910	0.0948	0.0987	0.1026	0.1064	0.1103	0.1141
0.3	0.1179	0.1217	0.1255	0.1293	0.1331	0.1368	0.1406	0.1443	0.1480	0.1517
0.4	0.1554	0.1591	0.1628	0.1664	0.1700	0.1736	0.1772	0.1808	0.1844	0.1879
0.5	0.1915	0.1950	0.1985	0.2019	0.2054	0.2088	0.2123	0.2157	0.2190	0.2224
0.6	0.2257	0.2291	0.2324	0.2357	0.2389	0.2422	0.2454	0.2486	0.2517	0.2549
0.7	0.2580	0.2611	0.2642	0.2673	0.2704	0.2734	0.2764	0.2794	0.2823	0.2852
0.8	0.2881	0.2910	0.2939	0.2967	0.2995	0.3023	0.3051	0.3078	0.3106	0.3133
0.9	0.3159	0.3186	0.3212	0.3238	0.3264	0.3289	0.3315	0.3340	0.3365	0.3389
1.0	0.3413	0.3438	0.3461	0.3485	0.3508	0.3531	0.3554	0.3577	0.3599	0.3621
1.1	0.3643	0.3665	0.3686	0.3708	0.3729	0.3749	0.3770	0.3790	0.3810	0.3830
1.2	0.3849	0.3869	0.3888	0.3907	0.3925	0.3944	0.3962	0.3980	0.3997	0.4015
1.3	0.4032	0.4049	0.4066	0.4082	0.4099	0.4115	0.4131	0.4147	0.4162	0.4177
1.4	0.4192	0.4207	0.4222	0.4236	0.4251	0.4265	0.4279	0.4292	0.4306	0.4319
1.5	0.4332	0.4345	0.4357	0.4370	0.4382	0.4394	0.4406	0.4418	0.4429	0.4441
1.6	0.4452	0.4463	0.4474	0.4484	0.4495	0.4505	0.4515	0.4525	0.4535	0.4545
1.7	0.4554	0.4564	0.4573	0.4582	0.4591	0.4599	0.4608	0.4616	0.4625	0.4633
1.8	0.4641	0.4649	0.4656	0.4664	0.4671	0.4678	0.4686	0.4693	0.4699	0.4706
1.9	0.4713	0.4719	0.4726	0.4732	0.4738	0.4744	0.4750	0.4756	0.4761	0.4767

z	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
2.0	0.4772	0.4778	0.4783	0.4788	0.4793	0.4798	0.4803	0.4808	0.4812	0.4817
2.1	0.4821	0.4826	0.4830	0.4834	0.4838	0.4842	0.4846	0.4850	0.4854	0.4857
2.2	0.4861	0.4864	0.4868	0.4871	0.4875	0.4878	0.4881	0.4884	0.4887	0.4890
2.3	0.4893	0.4896	0.4898	0.4901	0.4904	0.4906	0.4909	0.4911	0.4913	0.4916
2.4	0.4918	0.4920	0.4922	0.4925	0.4927	0.4929	0.4931	0.4932	0.4934	0.4936
2.5	0.4938	0.4940	0.4941	0.4943	0.4945	0.4946	0.4948	0.4949	0.4951	0.4952
2.6	0.4953	0.4955	0.4956	0.4957	0.4959	0.4960	0.4961	0.4962	0.4963	0.4964
2.7	0.4965	0.4966	0.4967	0.4968	0.4969	0.4970	0.4971	0.4972	0.4973	0.4974
2.8	0.4974	0.4975	0.4976	0.4977	0.4977	0.4978	0.4979	0.4979	0.4980	0.4981
2.9	0.4981	0.4982	0.4982	0.4983	0.4984	0.4984	0.4985	0.4985	0.4986	0.4986
3.0	0.4987	0.4987	0.4987	0.4988	0.4988	0.4989	0.4989	0.4989	0.4990	0.4990
3.1	0.4990	0.4991	0.4991	0.4991	0.4992	0.4992	0.4992	0.4992	0.4993	0.4993
3.2	0.4993	0.4993	0.4994	0.4994	0.4994	0.4994	0.4994	0.4995	0.4995	0.4995
3.3	0.4995	0.4995	0.4995	0.4996	0.4996	0.4996	0.4996	0.4996	0.4996	0.4997
3.4	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4998
3.5	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998	0.4998
3.6	0.4998	0.4998	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999
3.7	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999
3.8	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999	0.4999
3.9	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000

FORMULAE

$$\overline{X} = \frac{1}{n} \sum_{i=1}^{n} X_i$$

$$\overline{X} = \frac{\sum_{i=1}^{n} X_i \cdot F(X_i)}{\sum_{i=1}^{n} F(X_i)}$$

$$Z = \frac{x - \mu}{\sigma}$$

$$S_X = \sqrt{\frac{\sum_{i=1}^{n} (X_i - \overline{X})^2 \cdot F(X_i)}{\sum_{i=1}^{n} F(X_i)}}$$

$$\text{Mean Deviation} = \frac{\sum_{i=1}^{n} |X - \overline{X}|}{n}$$

$$S_X = \sqrt{\frac{\sum_{i=1}^{n} (X_i - \overline{X})^2}{n}}$$

$$\text{Skewness} = \frac{3\,(\text{mean} - \text{median})}{\sigma}$$

Value

SECTION A

Do **ALL** items in this section. Total value: 45%.

1. A class of 40 students were given a math quiz with a total value of 10. The scores obtained were as follows:

8	2	1	5	7	6	4	3	7	8
9	7	5	4	6	6	1	3	9	5
8	10	8	9	2	1	6	3	1	4
0	6	8	4	4	1	10	9	1	3

3 (a) Construct a frequency distribution table for the above information.

3 (b) Draw a histogram (on the graph paper provided) for the above data.

2 (c) On the axes used in (b), draw a frequency polygon.

2 (d) A corner store's gross sales for the four quarters of its fiscal year are indicated below. Draw a circle graph to display this information.

Quarter	Gross Sales
First	$15 000
Second	$20 000
Third	$50 000
Fourth	$35 000

2. A man who went to work by train noted the number of times the train was late arriving at his destination. The following distribution shows the results of his analysis:

No. of Minutes Late	0-4	4-8	8-12	12-16	16-20	20-24	24-28
Frequency	5	16	10	7	5	4	3

Prepare a table for the above data, and use it to calculate the following:

2 (a) the mean number of minutes the train was late

2 (b) the mean deviation

3 (c) the standard deviation

3. (a) The amounts of soap used daily by a car wash terminal yield a normal distribution with a mean of 150 kg and a standard deviation of 20 kg.

3 (i) Draw a normal distribution for this information and label it.

3 (ii) If the car wash was open 210 days last year, how many days did the car wash use less than 130 kg of soap?

3 (b) Sketch a graph that is symmetrical and leptokurtic for a distribution with a range from −2.5 to +2.5 and central tendency at 0.0.

4. (a) 10 red balls, 10 blue balls, 10 yellow balls, and 10 black balls are placed in a bag. Each colour has balls numbered 1 to 10.

3 (i) If the balls are not returned after being selected, what is the probability that if 3 balls are selected, the numbers selected will be 4, 8 and 10 in that order.

3 (ii) If the balls are returned after being drawn, what is the probability that the balls selected will be a black 4, a red 8, and a yellow 10, in any order.

(b) A firm manufactures batteries. The mean life of a battery is given as 40 hours with a standard deviation of 5 hours.

2 (i) What z-score corresponds to a battery life of 48 hours?

2 (ii) What is the probability that a battery will last less than 32 hours?

3 (iii) What is the probability that a battery will last between 34 hours and 44 hours?

3 (c) (i) Draw a sample space to show all the possible products of the results when two dice are rolled.

3 (ii) Someone rolls two dice and announces that their product is 6. What is the probability that one die will show 2 and the other 3?

SECTION B

Do any **ONE** complete item from this section. Total value: 15%.

5. The following data were collected during a survey:

Girl	A	B	C	D	E	F	G	H	I	J
Age	16	9	11	11	15	14	6	12	15	8
Height (cm)	155	135	140	145	150	158	120	145	160	130

4 (a) On the graph paper provided, draw a scatter diagram using the horizontal axis for age and the vertical axis for height.

4 (b) Draw the line of best fit.

3 (c) Estimate the height of a student whose age is 13 years.

2 (d) Describe the type and degree of correlation shown by the graph.

2 (e) Sketch a scatter diagram that illustrates high negative correlation.

6. (a) Evaluate each of the following:

1 (i) $\frac{5! + 4!}{6!}$

1 (ii) ${}_4C_3$

1 (iii) ${}_{10}P_3$

3 (b) From a set of 10 different entries in a contest, 3 are chosen to receive first, second and third prize. In how many ways can these prizes be awarded?

(c) Solve the following using only numerals from the set (1, 2, 3, 4, 5):

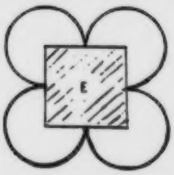
3 (i) How many possible three-digit numbers can be formed if repetition of digits is allowed?

3 (ii) How many possible three-digit numbers can be formed if repetition of digits is NOT allowed?

3 (d) In Newfoundland, licence plates consists of three letters of the alphabet, followed by three digits (e.g., ABC 025). How many licence plate numbers are possible if repetition of letters and digits is allowed?

Value

6 7. (a) A sample space P and an event E are defined by the diagram below. The four congruent circular arcs are drawn with their centres at the vertices of a square with sides 8 units each. Find the probability that a randomly chosen sample in P belongs to E.



3 (b) In humans, brown eyes (B) are dominant to blue eyes (b). A brown-eyed man (Bb) and a blue-eyed woman (bb) have eight children. How many of the children would be expected to have blue eyes (bb)?

(c) At the fair grounds, one event features a square target with side 20 cm. The target has three circular regions with radii 2 cm, 4 cm, and 6 cm. By hitting the 2-cm circle,you obtain a score of 64; the 4-cm gives a score of 32, and the 6-cm circle gives a score of 16; by missing all three circles, you obtain a score of 8. If you have only one chance to hit the target, what is the probability of getting the following scores?

3 (i) exactly 16

3 (ii) more than 16

8. (a) Refer to the following information to do parts (i) and (ii) of this item:

Year	C.P.I.
1981	100
1983	117.2
1985	127.2
1987	133.4

3 (i) John earned $20 000 in 1981 and $22 000 in 1985. Did his real income go up or down? Explain.

3 (ii) How much would John have to be making in 1987 to have the same standard of living as he had in 1981?

3 (b) Assuming an inflation rate of 5.0%, a G.N.P. of 1500 billion dollars, and a population of 25 million, calculate the per capita G.N.P.

2 (c) Explain why the federal government uses the Consumer Price Index to make adjustments under the Canada Pension Plan.

2 (d) What is meant by "seasonally adjusted" data?

2 (e) A farm that sold for $70 000 last year was sold again this year for $80 000. Calculate the inflation rate to the nearest tenth of a percent.

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

ADVANCED MATHEMATICS 3201

NOVEMBER 1989

PART I

Value: 40 marks

Time: 1 hour

Examination Number ________________

GENERAL INSTRUCTIONS

1. Part I consists of 40 objective items, and candidates are required to do all items.
2. A self-powered calculator may be used for calculations and to obtain special values.
3. Answers are to be written in this paper.
4. Be sure to write your Examination Number in the space provided above.

REGULATIONS FOR CANDIDATES

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- Materials required
- Materials not permitted
- Use of handheld calculator
- Use of pen or pencil
- Communication and movement during the examination
- Punctuality
- Leaving the room
- Use of answer booklets
- Completion of required information
- Use of unauthorized means, and penalties

SECTION A

Do ALL of the following by writing the letter of the correct response for each in the blank at the right. Total value: 20%.

1. If $g(x) = x^2 - 2x - 8$, what is $g(x + 2)$? .... (1) ______

   (A) $x^2 + 2x$

   (B) $x^2 - 2x - 8$

   (C) $x^2 + 2x - 8$

   (D) $x^2 + 6x - 2$

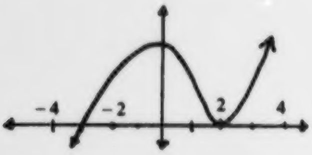
2. Identify the equation which describes the graph below. .... (2) ______

   (A) $y = a(x - 3)(x + 2)^2,\ a > 0$

   (B) $y = a(x + 3)(x - 2)^2,\ a > 0$

   (C) $y = a(x + 3)(x + 2)^2,\ a > 0$

   (D) $y = a(x - 3)(x - 2)^2,\ a > 0$



3. What is the equation of the parabola which passes through the origin and has its vertex at (2, 8)? .... (3) ______

   (A) $y = 2(x - 2)^2 + 8$

   (B) $y = -2(x - 2)^2 + 8$

   (C) $y = -2(x + 2)^2 - 8$

   (D) $y = 2(x - 2)^2 - 8$

4. If $(x - 2)$ is a factor of $2x^3 + x^2 + kx + 24$, what is the value of k? .. (4) ______

   (A) -22

   (B) 2

   (C) 6

   (D) 22

5. If $g(x) = ab^x$, $g(0) = -2$, and $g(1/3) = -4$, what is the value of b? ... (5) ______

   (A) -8

   (B) 2

   (C) 6

   (D) 8

Value

6. Write 2 [log A + log B − log C] as a single logarithm................. (6) ______

(A) $\log \left[\frac{AB}{C}\right]2$

(B) $\log [ABC]^2$

(C) $[\log A + \log B - \log C]^2$

(D) $\log [A + B - C]^2$

7. If $\log_a 3 = r$ and $\log_a 5 = s$, what is $\log_a 225$? .... (7) ______

(A) r^2s^2

(B) $r - 2s$

(C) $2r - s$

(D) $2r + 2s$

8. What is the eccentricity of the ellipse with the following equation? ...... (8) ______

$$\frac{x^2}{25} + \frac{y^2}{9} = 1$$

(A) $\frac{3}{5}$

(B) $\frac{5}{4}$

(C) $\frac{3}{4}$

(D) $\frac{4}{5}$

9. If a hyperbola has equation $9y^2 - 16x^2 = 144$, what is the equation of the asymptotes? .... (9) ______

(A) $y = \pm \frac{3x}{4}$

(B) $y = \pm \frac{4x}{3}$

(C) $y = \pm 5x$

(D) $y = \pm \frac{16x}{9}$

10. What are the coordinates of the foci of the ellipse with the following equation? (10)______

$$\frac{x^2}{25} + \frac{y^2}{169} = 1$$

(A) $(0, \pm 13)$

(B) $(0, \pm 12)$

(C) $(0, \pm 5)$

(D) $(0, \pm \sqrt{194})$

11. Which of the following equations describes the hyperbola with centre at the origin, one of its vertices at (6,0), and a focus at (10,0)? .... (11)________

(A) $\frac{x^2}{36} - \frac{y^2}{100} = 1$

(B) $\frac{x^2}{64} - \frac{y^2}{36} = 1$

(C) $\frac{x^2}{36} - \frac{y^2}{64} = 1$

(D) $\frac{x^2}{100} - \frac{y^2}{36} = 1$

12. What is the smallest positive angle co-terminal with $\frac{5\pi}{4}$? .... (12)________

(A) $\frac{5\pi}{4}$

(B) $\frac{-3\pi}{4}$

(C) $\frac{\pi}{4}$

(D) $\frac{3\pi}{4}$

13. What is the range of $y = \arccos x$? .... (13)________

(A) $-1 \leq y \leq 1$

(B) $0 \leq y \leq \pi$

(C) $-\frac{\pi}{2} \leq y \leq \frac{\pi}{2}$

(D) any real number

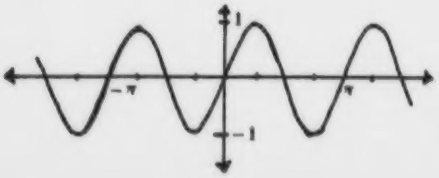
14. What equation best describes the graph below? .... (14)________

(A) $y = \cos 2x$

(B) $y = \sin 2x$

(C) $y = -\sin 2x$

(D) $y = -\cos 2x$



Value

15. What is the exact value of $\log_2 (\sin \frac{3\pi}{4})$? .... (15)________

(A) $-\frac{1}{2}$

(B) $-\frac{\sqrt{2}}{2}$

(C) $\frac{1}{2}$

(D) $\frac{\sqrt{2}}{2}$

16. What is the simplest form of tan x (csc x − sin x)? .... (16)________

(A) sin x

(B) cos x

(C) − tan x

(D) cot x

17. What is the exact value of cos 75°? .... (17)________

(A) $\frac{\sqrt{6} - \sqrt{2}}{4}$

(B) $\frac{\sqrt{2} - \sqrt{6}}{4}$

(C) $\frac{\sqrt{2} + \sqrt{6}}{4}$

(D) $\frac{\sqrt{6} + \sqrt{2}}{4}$

18. If $g(x) = -3 \cos \frac{1}{2}x$, what is the period of $g(x)$? .... (18)________

(A) $\frac{1}{2}$

(B) 3

(C) $\frac{\pi}{2}$

(D) 4π

19. What is the area of a rhombus having sides 10 cm and an obtuse angle of 150°? (19)________

(A) 25

(B) 50

(C) $25\sqrt{3}$

(D) $50\sqrt{3}$

Value

20. If $A = B$, which of the following is equal to the formula $\cos(A + B) = \cos A \cos B - \sin A \sin B$? .... (20)________

(A) $\cos^2 A = \cos^2 A - \sin^2 A$

(B) $\cos 2A = 1 - 2\cos^2 A$

(C) $\cos 2A = 1$

(D) $\cos 2A = 1 - 2\sin^2 A$

SECTION B

Do **ALL** of the following by writing the correct response for each in the blank at the right. Total value: 20%.

21. If $4 + 3i$ is a zero of a real polynomial, state another zero of the polynomial. .... (21)________________

22. List the possible rational zeros of the polynomial $3x^3 - 4x^2 - 5x + 2 = 0$. .... (22)________________

23. What is the y-intercept of the graph of the equation $y = -3(x + 2)(x - 1)$? .... (23)________________

24. If $P(x) = 2x^3 - x^2 + 5x - 6$ and $P(x) = 0$, what is the sum of the roots? .... (24)________________

25. Solve for x: $8^{x-1} = 2^{x+1}$ .... (25)________________

26. Simplify without negative exponents: $(2^{-2} + 2^{-3})^{-1}$...... (26)________________

27. Using the "rule of 70", find the doubling time for university tuition which has an annual rate of increase of 14%. ..... (27)________________

28. State the coordinates of the vertices of the hyperbola with the equation $4y^2 - 9x^2 = 36$. .... (28)________________

29. What is the equation of the directrix of the parabola with the equation $x = -2y^2$? .... (29)________________

30. What is the length of the major axis of the ellipse $64x^2 + 49y^2 = 3136$? .... (30)________________

31. Give the solutions as ordered pairs to the following system of equations: .... (31)________________

$$\begin{aligned} x^2 + y^2 &= 8 \\ x &= -2 \end{aligned}$$

32. If $\sin x < 0$ and $\tan x < 0$, in which quadrant does the terminal side of x lie? .... (32)________________

33. What is the radian measure (in terms of π) for an angle whose measure is 220°? .... (33)________________

34. What is the amplitude of the trigonometric function $y = 3\sin 2x$? .... (34)________________

35. If $\frac{\pi}{2} < x < \pi$, solve the following equation for x:...... (35)________________

$$4\cos^2 x - 3 = 0$$

36. Evaluate: $\arcsin\left[\sin\left(-\frac{2\pi}{3}\right)\right]$ .... (36)________________

37. Simplify the following expression by writing your answer as a trigonometric function: .... (37)____________________

$$\sin\left(\theta - \frac{3}{2}\pi\right)$$

38. Calculate the length of the shorter diagonal of a parallelogram with sides of lengths 5 cm and 8 cm and an angle with measure of 60°. .... (38)____________________

39. Find the exact value of $\cos^2 \frac{5}{6}\pi - \sin^2 \frac{5}{6}\pi$ .... (39)____________________

40. To the nearest degree, what is the measure of the angle of inclination of the line with equation $17x - 10y = 20$?..... (40)____________________

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

ADVANCED MATHEMATICS 3201

NOVEMBER 1989

PART II

Value: 60 marks

Time: 2 hours

GENERAL INSTRUCTIONS

1. Part II consists of five essay items with some internal choice, and candidates are required to do all items.
2. Two sheets of graph paper are provided for use in some items. Also, a self-powered calculator may be used for calculations and to obtain special values.
3. Candidates are reminded to show all necessary steps and calculations as credit may be given for incomplete or partially correct solutions. Correct answers without calculations will not merit full marks.
4. Answers are to be written in the answer booklet provided.

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— Materials required
— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

FORMULAE

$$\sin(\alpha+\beta) = \sin\alpha\cos\beta + \cos\alpha\sin\beta$$
$$\sin(\alpha-\beta) = \sin\alpha\cos\beta - \cos\alpha\sin\beta$$
$$\cos(\alpha+\beta) = \cos\alpha\cos\beta - \sin\alpha\sin\beta$$
$$\cos(\alpha-\beta) = \cos\alpha\cos\beta + \sin\alpha\sin\beta$$

$$\tan(\alpha+\beta) = \frac{\tan\alpha + \tan\beta}{1 - \tan\alpha\tan\beta}$$

$$\tan(\alpha-\beta) = \frac{\tan\alpha - \tan\beta}{1 + \tan\alpha\tan\beta}$$

$$\sin 2\alpha = 2\sin\alpha\cos\alpha$$

$$\cos 2\alpha = \cos^2\alpha - \sin^2\alpha$$

(or) $= 1 - 2\sin^2\alpha$

(or) $= 2\cos^2\alpha - 1$

$$\tan 2\alpha = \frac{2\tan\alpha}{1 - \tan^2\alpha}$$

$$\sin\frac{x}{2} = \pm\sqrt{\frac{1-\cos x}{2}}$$

$$\cos\frac{x}{2} = \pm\sqrt{\frac{1+\cos x}{2}}$$

$$\tan\frac{x}{2} = \frac{\sin x}{1+\cos x} = \frac{1-\cos x}{\sin x}$$

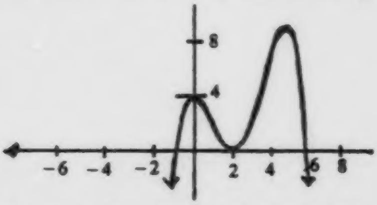
Value

1. Do any **THREE** of parts (a) to (d).

4 (a) Find all the roots (real and/or complex) of the following equation:

$$x^3 - 4x^2 + 9x - 10 = 0$$

4 (b) Find the equation of the quartic polynomial having the following graph:



4 (c) Sketch the graph of the following polynomial function and indicate its zeros:

$$y = x^2(x+2)^2(x-2)$$

4 (d) Show that $x^3 + 2x^2 - 3x - 5 = 0$ has no rational roots, but that it has an irrational root occuring between -3 and -2.

Value

3 2. (a) Solve **ONE** of the following equations for x:

(i) $\log_6 (x + 3) + \log_6 (x - 2) = 1$

(ii) $\log_2 (x + 6) - \log_2 (3x - 5) = 3$

3 (b) Evaluate: $\log_9 [(3)\sqrt{27}] + \log_{81} 3$

3 (c) A house which sold for $50 000 in 1981 was resold for $98 000 in 1988. What was the annual rate of appreciation (increase) in the value of the house to the nearest percent?

3. Do any **THREE** of parts (a) to (d).

4 (a) Sketch the graph of the following ellipse showing the coordinates of the vertices, the centre and the foci:

$$36x^2 + 9y^2 = 324$$

4 (b) Find the equation of the hyperbola having its centre at the origin, one vertex at $(-3,0)$, and eccentricity $\frac{\sqrt{34}}{3}$.

4 (c) Solve the following system algebraically:

$$3x^2 + y^2 = 21$$
$$3x - y = 3$$

4 (d) For the parabola with equation $y^2 = 24x$, determine the coordinates of the vertex, the focus, and the equation of the directrix.

4 4. (a) **EITHER**

(i) Two observers, 50 km apart, sight a plane at angles of elevation of 40° and 80° respectively. Find the distance from the plane to the nearest observer.

OR

(ii) In a parallelogram PQRS, $\angle P = 50°$, PQ = 6 cm, and PS = 12 cm. Find the length of the longer diagonal.

4 (b) Sketch the graph of $y = 2 \cos \frac{x}{2}$ over the interval $-\frac{\pi}{2} \leq x \leq \frac{3\pi}{2}$.

4 (c) If $\tan x = \frac{3}{4}$ and $\pi < x < \frac{3}{2}\pi$, find csc x and sec x.

3 5. (a) **EITHER**

(i) Simplify: $\dfrac{\cot x + \tan x}{\csc^2 x}$

OR

(ii) Prove the identity: $\dfrac{\tan x + \tan y}{\cot x + \cot y} = (\tan x)(\tan y)$

3 (b) Given that $\sin a = \frac{1}{3}$, $0 < a < \frac{\pi}{2}$, and $\cos b = -½$, $\frac{\pi}{2} < b < \pi$, find the exact value of $\cos (a + b)$.

3 (c) Solve for x: $\sin^2 x - \sin x = \cos^2 x$, $0 \leq x < 2\pi$.

Value
6

(d) Do **TWO** only of parts (i) to (iii).

(i) Prove:

$2 \log (\sin x + \cos x) - \log (1 + \sin 2x) = 0$

(ii) Simplify:

$\sin (x + y) \cos y - \cos (x + y) \sin y$

(iii) A triangle with angles 50°, 60°, and 70° has all three vertices on the circle of radius 8 cm. Find the lengths of all three sides.

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

BUSINESS MATHEMATICS 3202

NOVEMBER 1989

Value: 100 marks

Time: 3 hours

Examination Number ________________

GENERAL INSTRUCTIONS

1. The examination consists of both objective and essay items, arranged in three sections as follows, and candidates are required to do **ALL** sections as directed within:

   SECTION A — 15 multiple-choice items — 15%
   SECTION B — 25 completion items — 25%
   SECTION C — 5 essay items — 60%

2. Electronic calculators may be used if desired, but for essay items, candidates are reminded to show all necessary steps and calculations as credit may be given for incomplete or partially correct solutions. Correct answers without calculations will not merit full marks.

3. All answers are to be written in the spaces provided on this paper. Do not use allotted answer spaces for rough drafts which you may wish to discard.

4. Be sure to write your Examination Number in the space provided above.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the Chief Supervisor prior to the first session, and have been posted for further reference near the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

- Materials required
- Materials not permitted
- Use of handheld calculator
- Use of pen or pencil
- Communication and movement during the examination
- Punctuality
- Leaving the room
- Use of answer booklets
- Completion of required information
- Use of unauthorized means, and penalties

1. $\text{Break-even Point in Units} = \dfrac{\text{Total Fixed Costs}}{\begin{matrix}\text{Selling Price}\\ \text{Per Unit}\end{matrix} - \begin{matrix}\text{Variable Cost}\\ \text{Per Unit}\end{matrix}}$

2 $\text{Possible Net Profit} = \left(\begin{matrix}\text{Selling Price}\\ \text{Per Unit}\end{matrix} - \begin{matrix}\text{Total Cost}\\ \text{Per Unit}\end{matrix}\right) \times \begin{matrix}\text{Estimated}\\ \text{Unit Sales}\end{matrix}$

3. Total Rental Cost = (Rental Charge × Time) + Provincial Sales Tax.

4. $\begin{matrix}\text{Energy}\\ \text{Charge}\end{matrix} = \left(\begin{matrix}\text{Present}\\ \text{Meter Reading}\end{matrix} - \begin{matrix}\text{Previous}\\ \text{Meter Reading}\end{matrix}\right) \times \text{Multiplier} \times \text{Cost Per Kw-hr}$

5. Cost of Treasury Bill = (Face of Bill − Interest) + Service Fee

6. $\text{Annual Depreciation} = \dfrac{\text{Original Cost} - \text{Salvage Value}}{\text{Estimated Life}}$

7. $\text{Depreciation for Year} = \begin{matrix}\text{Fraction of}\\ \text{Total Depreciation}\end{matrix} \times \left(\begin{matrix}\text{Original}\\ \text{Cost}\end{matrix} - \begin{matrix}\text{Salvage}\\ \text{Value}\end{matrix}\right)$

8. $\text{Annual Depreciation Rate} = 2 \times \dfrac{100\%}{\text{Estimated Life}}$

9. $\text{Depreciation for Year} = \begin{matrix}\text{Annual}\\ \text{Depreciation Rate}\end{matrix} \times \begin{matrix}\text{Previous}\\ \text{Declining Balance}\end{matrix}$

SECTION A

Business Terminology

In each of the following, select the term which is referred to or defined by the statement, and write the letter of the correct response in the blank at the right. Total value: 15%.

1. A raise in salary to help an employee keep up with inflation .... (1) ______
   (A) salary-scale increase
   (B) merit increase
   (C) cost-of-living adjustment
   (D) employee adjustment

2. The total cost of manufacturing an item .... (2) ______
   (A) prime cost
   (B) material cost
   (C) labour cost
   (D) fixed cost

3. An estimate of the number of products that a business might sell during a specified period of time. .... (3) ______
   (A) market share
   (B) sales potential
   (C) break-even point
   (D) possible net profit

4. Time away from a job spent in training, for which regular wages are paid (4) ______
   (A) travel time
   (B) training time
   (C) regular time
   (D) release time

5. The price at which a business generally sells an item to the consumer .... (5) ______
   (A) trade price
   (B) list price
   (C) net price
   (D) regular price

6. The number of incoming items that are added to a company's previous inventory .... (6) ______
   (A) receipts
   (B) issues
   (C) proceeds
   (D) invoices

7. Charges for public services such as electricity or water .... (7) ______
   (A) utilities costs
   (B) variable costs
   (C) cost-of-living costs
   (D) energy costs

8. A term used in reference to items which are found to be broken or damaged (8) ______
   (A) out-of-control
   (B) defective
   (C) in-control
   (D) quality control

9. The dollar amount in an earlier income statement when computing percent change.. (9) ______
   (A) fixed cost
   (B) base figure
   (C) prime cost
   (D) current figure

10. A record of gross income, deductions, and net income for all of a company's employees.. (10)______
    (A) salary scale
    (B) balance sheet
    (C) income statement
    (D) payroll register

11. An item (of the four given) which contains a smaller amount of data than the other three .... (11)______
    (A) record
    (B) field
    (C) file
    (D) data base

12. The portion of a corporation's total revenue remaining after normal business expenses are deducted .... (12)______
    (A) profit margin
    (B) net profit
    (C) taxable income
    (D) net income

13. The value of an item at the end of its expected life .... (13)______
    (A) salvage value
    (B) face value
    (C) retail value
    (D) book value

14. Shares of ownership in a corporation .... (14)______
    (A) stocks
    (B) bonds
    (C) treasury bills
    (D) commercial paper

15. One of the factors on which the basic rate of shipping goods by truck usually depends... (15)______
    (A) pickup charge
    (B) delivery charge
    (C) distance travelled
    (D) vehicle used

Value

SECTION B

Business Computations

Write the correct response for each of the following in the blank at the right. Total value: 25%.

16. Mary Smith works as an auto mechanic for $23 900 annually. What is her new salary if she receives a 5.5% merit increase? (16)__________________

17. Ballpoint pens are inspected regularly for quality control. Out of a sample of 35 checked, 7 were found to be defective. What percent of the sample of pens is defective? .... (17)__________________

18. A sweater at Heidi's Knitwear cost the company $36.00 and sells for $59.95. What is the markup? .... (18)__________________

19. Snow blowers are delivered in boxes that measure 0.9 m by 0.6 m by 1.2 m. How many cubic metres of storage space is required to store 150 snow blowers? .... (19)__________________

20. Expenses for Helman's Marketing total $39 650 for the first quarter of this year. Advertising expenses total $11 500 for the same time period. Advertising is what percent of the total? (20)__________________

21. Sound Technique Store rents a 30 m by 25 m space in the local Mall at $18.60/m^2 per year. What is the monthly rental charge? .... (21)__________________

22. Ann Power's travel expenses for May consists of an airfare charge of $496.50 and a hotel charge of $72.00 a night for four nights. What are her total travel expenses? .... (22)__________________

23. A pair of extra wide shoes at Joe's Footwear cost $30.00 and are marked up by 72% of the cost. What is the selling price? (23)__________________

24. An income statement for Pringle's Powerworks showed a gross profit of $20 000 and a net income of $14 700. What amount was spent on operating expenses? .... (24)__________________

25. A blender has a list price of $99.25 and a net price of $75.43. What is the trade discount rate? .... (25)__________________

26. The average time to spray paint a mail box is 153.8 seconds. If Fred Manning works 55 minutes every hour spray painting mail boxes, how many can be completed by him every hour? (26)__________________

27. Main Movie Theater hired four high school students to repair the seats at a rate of $6.90/hour. If the job took a total of 18 hours, what was the total labour charge? .... (27)__________________

28. A storm door has a list price of $295.00. A chain discount of 20/15 is offered. Calculate the net price of a storm door. (28)__________________

29. G & M Iron Inc. carries $3 265 000 inventory annually and estimates the cost of carrying the inventory at 13% of its value. What is the annual cost of carrying the inventory? .... (29)__________________

30. New Tech Services had a gross profit of $50 000 for the last quarter of 1988, and a gross profit of $54 300 for the first quarter of 1989. Express the amount of change to the nearest percent. .... (30)__________________

31. Betty Hynes works 8 hours a day as a receptionist. If she spends about 2.4 hours each day answering the telephone, what percent of her day is spent on this task? .... (31)__________________

32. Allen's Manufacturing recently sold $450 000 worth of stock. The underwriting commission was 4.5% of the value of the stock. What net proceeds did Allen's receive? .... (32)__________________

Value

33. In a survey of 450 people for a new apple juice, 387 rated the juice as "good". What is the rate of "good" responses? . (33)____________________

34. The Bay Arena has an area of 25 000 m². The cost of lighting the arena last year was $9 500. Calculate the annual lighting cost for the cafeteria which occupies 4 850 m². . . . . . . (34)____________________

35. National Foods Inc. showed a total net sales for 1986 to be $4 376 000. In 1987, total net sales was $3 884 000. What is the amount of change? . . . . (35)____________________

36. A leather jacket regularly priced at $149.99 was marked down by $36.00. What is the markdown rate? . . . . (36)____________________

37. As part of a $300 000 expansion to its existing business, Financial Enterprises engaged the services of a professional architect whose fee is 3% of the cost of expansion plus a flat fee of $2 500. What will the architect charge Financial Enterprises for his services? . . . . (37)____________________

Refer to the following "Status of Inventory Report" to do items 38, 39 and 40.

Status of Inventory Report for Week Ending June 9, 1989

Part #	Description	Stock	Cost	Retail	Restock	Order/On
9460	Clips	5	$3.50	$ 5.00	89/04/30	5
9520	Grommets	8	$9.60	$13.50	89/03/29	4
9680	Wedges	12	$7.20	$12.75	89/05/30	6
9930	Wires	9	$2.90	$ 3.75	89/05/30	5

38. Give the part number of the item that has the greatest markup? (38)____________________

39. Project 649RP uses 4 wires on June 12th. How many are in stock after that date? . . . . (39)____________________

40. What is the number of the part that should be ordered next (40)____________________

SECTION C

Do **ALL** items in this section. Present your calculation and solutions in the spaces provided in this paper. Total value: $60%.

4 41. (a) Terra Nova Communications hired Helen Stamp as its new Production Analyst with an annual salary of $28 950. The costs of hiring her were as follows:

Advertising cost:		$450.85
Interviewing expense:	Helen Stamp	$ 35.80
	Gary Jennings	$ 64.95
	Patricia Monroe	$ 52.40
Management Search Company: 6% of first year's salary		

What was the total cost of hiring the Production Analyst?

Value

4 (b) An invoice dated February 8th from Marine Supplies to Power's Drygoods has a list price of $8 170. A trade discount of 20% was given. The terms of the invoice are 5/10 EOM. What was the cash price if the invoice was paid by March 9th?

4 (c) Custom Department Stores sold various pieces of furniture to the Consulting Firm for $24 780. The cost of the furniture to Custom Department Stores was $11 220. The overhead expenses were estimated to be 27.8% of the selling price. What is the net profit rate based on the selling price?

3 42. (a) Northern Ice Ltd. produces automatic ice crushers. Northern Ice's fixed costs are $685 200. The variable costs per ice-crusher are $6.72 for labour and $4.31 for parts. If each unit sells for $19.99, how many units must be sold to break even?

Value

4 (b) Honest Bill's Used Cars plans to advertise its grand opening specials on the local television station, TTV. TTV charges $2 500 for a 30-second ad aired during Daytime and $6 500 for a 30-second ad aired during Primetime.

Honest Bill's campaign consists of:

Number	Length	Time
3	30 seconds	Primetime
6	60 seconds	Daytime
2	10 seconds	Primetime

What is the total cost for Honest Bill's advertisements on TTV?

3 (c) First National Bank loaned $28 000 to Gordon Products for a term of 270 days at 11.5% interest. What is the maturity value of the loan? Use ordinary interest at exact time.

6 43. (a) Do any **TWO** of parts (i), (ii), and (iii) on depreciation, using the method indicated. Calculations must be shown.

(i) **The Sum-of-the-Years-Digits Method:** Lawn Care Service purchased a new lawn mower for $1 200. Its estimated life is 5 years. After 5 years the resale value of the mower is $230. What is the book value at the end of the first year?

Value

(ii) **The Straight-Line Method:** Salon Ten purchased new exercise equipment. The total cost was $125 000. The estimated life of the equipment is 10 years. The total value of the equipment after 10 years is estimated to be $10 500. What is the book value at the end of 6 years?

(iii) **The Double-Declining Balance Method:** General's Office Supply installed a new flouride system for $86 000. The estimated life of the system is 8 years. What is the book value at the end of the first year?

5 (b) Mountain Ski Resort is expanding to include another Chalet/Restaurant having a total area of 825 m^2. The costs for the expansion are as follows:

Construction:	$36 900
Equipment & fixtures:	$22/$m^2$
Decorating fees:	$19.50/hour for 16 hours
Architect's fee:	6% of the Construction cost

What is the total cost for the Ski Resort to expand?

Value

4 44. (a) Air Courier Service is shipping 2485 kg of tubing by air freight. Pickup is $16.25 per 100 kg or fractional part. Delivery is $16.10 per 100 kg or fractional part. The air freight is $18.25 per 100 kg charged by the actual number of kilograms shipped. What is the total shipping charge to Air Courier Service?

(b) Use the following **Production Cost Report** to do parts (i) to (iv) of this item following the table.

Production Cost Report for Week Ending March 5, 1989

Date	Project #	Dept. #	Part/Emp. #*	Amt Used/ Hrs Worked
89/03/05	233XL	10	2860	3
89/03/05	235PJ	8	360	8
89/03/05	235PJ	12	1420	4
89/03/05	233XL	12	504	6
89/03/05	233XL	8	2860	8
89/03/05	235PJ	10	2010	10

*In this column, a 4-digit number represents a part and a 3-digit number represents an employee.

½ (i) How many parts were used on Project #235PJ?

½ (ii) How many hours were spent on Project #233XL?

2 (iii) Employees in all departments earn $14.50/hr. How much was spent in labour on March 5, 1989?

Value

2 (iv) Part #2860 costs $1.49 each. How much was spent for this part on Project #233XL?

4 (c) Susan Murphy works at Royal Bakery for an annual salary of $21 450. Her benefits are as follows:

Vacation:	3 weeks
Holidays:	6 days
Sickness & Accident Benefits:	$8.50/month

What are Susan's total benefits?

5 45. (a) Calvin Smith, of Smith's Children's Apparel, is preparing an income statement for the year ending December 31, 1988. Smith's had total sales of $215 488. The cost of goods sold was $89 991. Merchandise totalling $8 430 was returned. The operating expenses were as follows:

Wages and Salaries	$38 782
Depreciation	10 144
Advertising	8 418
Utilities	17 476
Real Estate Loan	12 419
Insurance	9 684

Complete the income statement for Smith's Children's Apparel, using the form below.

Value

Name of Company ______________________

Income Statement

For the Year Ending ______________ 19__

Income:

Sales

Less: Sales returns, and allowances

Net sales

Cost of goods sold

Gross profit on sales

Operating expenses:

____

____

____

____

____

____

____

____

____

____

Total operating expenses

Net Income

Value
5

(b) Robert Maye gets an hourly wage of $7.20 at Mom's Flower Shop. Last week he worked 40 hours at regular pay, and 4 hours at time and a half. His deductions were as follows:

Income Tax	$37.50
CPP	1.8% of gross pay
UIC	2.3% of gross pay

Calculate each of the following:

(i) Gross pay

(ii) Total deductions

(iii) Net pay

Value
4

(c) Harris and Company manufactures steel drill bits. A strip of hardened steel which costs $27.95 produces 135 drill bits. The direct labour charge is $13.20 per hour. The machine operator can make 37 drill bits an hour. To the nearest tenth of a cent, what is the prime cost of manufacturing one drill bit?

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

ACADEMIC MATHEMATICS 3203

NOVEMBER 1989

PART I

Value: 40 marks

Time: 1 hour

Examination Number ________________

GENERAL INSTRUCTIONS

1. Part I consists of objective items only arranged in two sections as follows, and candidates are required to do **ALL** items:

   SECTION A — 20 multiple-choice — 20%
   SECTION B — 20 completion — 20%

2. A self-powered calculator may be used for calculations and to obtain special values.
3. Answers are to be written in this paper.
4. Be sure to write your Examination Number in the space provided above.

REGULATIONS FOR CANDIDATES

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— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

SECTION A

Do ALL of the following by writing the letter of the correct response for each in the blank at the right. Total value: 20%.

1. Which of the following relations is **NOT** a function? .... (1) ______

   (A) (−4, 3), (−2, 0), 2, −1)

   (B) (−4, 3), (3, −4), (2, −4)

   (C) (−4, 3), (−2, 0), (−2, −1)

   (D) (−4, 3), (−5, 3), (−6, 3)

2. What is the value of x in the equation $-2 = \log_3 x$? .... (2) ______

   (A) −6

   (B) $-\frac{1}{8}$

   (C) $\frac{1}{9}$

   (D) $\sqrt[3]{2}$

3. If $g(x) = \frac{2x^2 - 6,}{3}$ what is the value of $g(-3)$? .... (3) ______

   (A) −8

   (B) −4

   (C) 4

   (D) 8

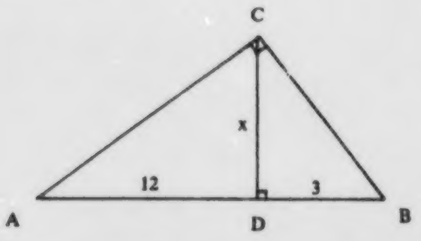
4. In the diagram below, $CD \perp AB$, AD = 12 and DB = 3. What is the value of x? (4) ______

   (A) $3\sqrt{5}$

   (B) $6\sqrt{5}$

   (C) 6

   (D) 36



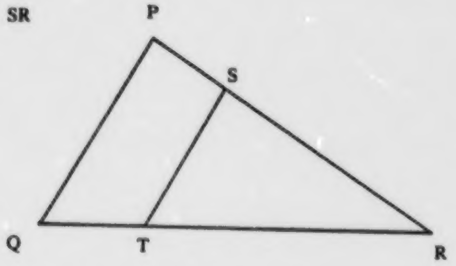
5. In the diagram below, select the condition that will make $\triangle$ PQR similar to $\triangle$ TSR: .... (5) ______

(A) $\angle P = \angle Q$

(B) $\angle TSR = 90^\circ$

(C) $\angle STR = \angle P$

(D) PS = SR



6. What is the vertex of the parabola whose equation is $y = -\frac{1}{3}(x + 2)^2 - 1$? .... (6) ______

(A) (−2, 1)

(B) (−3, 2)

(C) (−2, −1)

(D) (−2, 3)

7. If the discriminant of a quadratic equation is 6, which of the following best describes the roots of the equation? .... (7) ______

(A) real and rational

(B) real and unequal

(C) real and equal

(D) imaginary

8. If 0 is one root of the equation $3x^2 + 4x = 0$, what is the other root? .. (8) ______

(A) -4

(B) $-\frac{4}{3}$

(C) $\frac{4}{3}$

(D) $\frac{3}{4}$

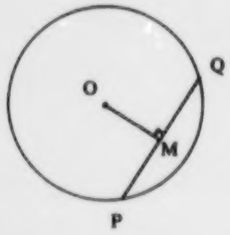
9. In the diagram below, O is the centre of the circle and OM ⊥ PQ. If PQ = 18 and OM = 12, what is the length of the radius of the circle? .... (9) ______

(A) $3\sqrt{2}$

(B) $9\sqrt{2}$

(C) 15

(D) 21



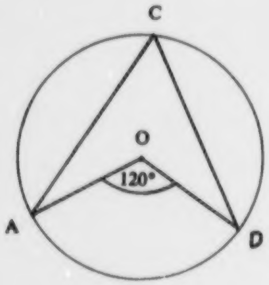
10. In the diagram below, O is the centre of the circle. If ∠ AOD = 120°, what is the measure of ∠ C? .... (10)______

(A) 30°

(B) 60°

(C) 120°

(D) 240°



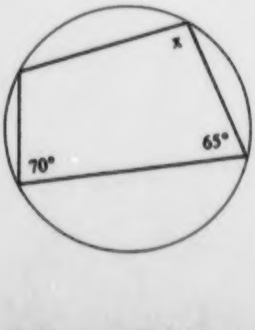
11. In the diagram below, what is the measure of x? .... (11)______

(A) 65°

(B) 70°

(C) 110°

(D) 115°



12. What is the focus of the graph of the equation $x = \frac{1}{16}y^2$? .... (12)______

(A) (0, 4)

(B) (4, 0)

(C) (0, −4)

(D) (−4, 0)

13. What is the equation of a circle that has centre (−2, 1) and radius 3? ... (13)______

(A) $(x - 2)^2 + (y - 1)^2 = 9$

(B) $(x + 2)^2 + (y + 1)^2 = 3$

(C) $(x + 2)^2 + (y - 1)^2 = 9$

(D) $(x - 2)^2 + (y - 1)^2 = 3$

14. What is the value of $\tan^2 30°$? .... (14)______

(A) $\frac{1}{\sqrt{3}}$

(B) $\frac{\sqrt{3}}{3}$

(C) $\frac{1}{9}$

(D) $\frac{1}{3}$

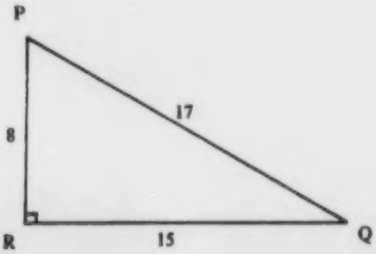
15. Given ΔPQR with $\angle R = 90°$, $PQ = 17$, $QR = 15$ and $PR = 8$, what is $\tan \angle P$? .... (15)______

(A) $\frac{8}{17}$

(B) $\frac{8}{15}$

(C) $\frac{15}{17}$

(D) $\frac{15}{8}$



16. What is the value of cot $(-480°)$? .... (16)______

(A) -1.7321

(B) 1.7321

(C) -0.5774

(D) 0.5774

17. Express $48° \, 36' \, 10''$ in degrees correct to two decimal places. .... (17)______

(A) 48.36

(B) 48.37

(C) 48.46

(D) 48.60

18. Which of the following is true for the initial arm of an angle that is in standard position? .... (18)______

(A) on the positive x-axis

(B) on the negative x-axis

(C) on the positive y-axis

(D) on the negative y-axis

19. What is the measure of the principal angle for the angle $-390°$? .... (19)______

(A) $-30°$

(B) $30°$

(C) $330°$

(D) $390°$

20. What is the maximum value of the function $y = \cos \theta$? .... (20)______

(A) -1

(B) 0

(C) $\frac{1}{2}$

(D) 1

SECTION B

Do **ALL** of the following by writing the correct response for each in the blank at the right. Total value: 20%.

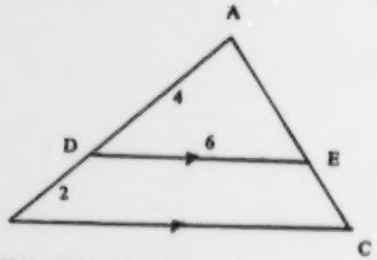
21. What is the slope of the line passing through the points A(−2, −6) and B(−5, −4)? .... (21)__________

22. What is the value of x in the equation log 6x − log 2 = log 36? (22)__________

23. What is the domain of the relation given by the following set of ordered pairs? .... (23)__________

(16, 4), (9, 3), (4, 2), (0, 0)

24. In the diagram below, if DE ∥ BC, AD = 4, DB = 2 and DE = 6, what is the measure of BC? .... (24)__________



25. If △ ABC ~ △ MON, what is the missing measure in the following statement? .... (25)__________

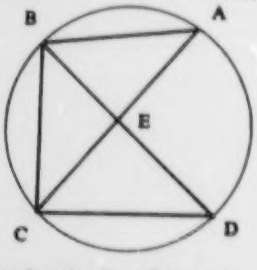
$$\frac{AC}{MN} = \frac{BC}{?}$$

26. What is the equation of the axis of symmetry of the parabola $y = \frac{1}{2}(x + 3)^2 - 6$? .... (26)__________

27. How many times will the graph of the corresponding quadratic function for $x^2 - 8x + 16 = 0$ intersect the x-axis? (27)__________

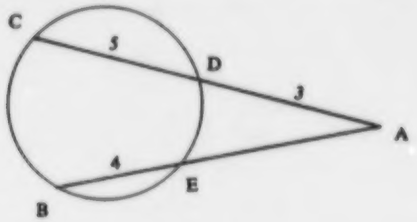
28. What are the zeros of the function $y = x^2 - 6x + 5$? ... (28)__________

29. In the diagram below, ∠ D = 38° and ∠ ABC = 114°. What is the measure of ∠ BCE? .... (29)__________



30. A circle having centre O and radius OB has a tangent PBC. Point B is the point of tangency. What is the measure of ∠ OBP? .... (30)__________

31. In the diagram below, if AD = 3, DC = 5 and EB = 4, what is the measure of AE? .... (31)________________



32. What is the length of the line segment whose endpoints are A(−6,4) and B(3, −8)? .... (32)________________

33. What are the coordinates of the centre of a circle whose equation is $(x - 4)^2 + (y + 3)^2 = 16$? .... (33)________________

34. What is the range of the function $y = \cos\theta$? .... (34)________________

35. In which quadrant does the terminal arm of θ lie if $\tan\theta$ is negative and $\sin\theta$ is negative? .... (35)________________

36. Simplify completely: $\sin\theta \cdot \sec\theta \cdot \cot\theta$ .... (36)________________

37. Change $\frac{5\pi}{6}$ to its equivalent degree measure. .... (37)________________

38. What is the smallest positive angle coterminal with −120°? (38)________________

39. If $\cos\theta = \frac{8}{10}$, what is the value of θ? .... (39)________________

40. What is the y-intercept of the function $y = \sin\theta$? ...... (40)________________

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

ACADEMIC MATHEMATICS 3203

NOVEMBER 1989

PART II

Value: 60 marks

Time: 2 hours

GENERAL INSTRUCTIONS

1. Part II consists of six essay items with some internal choice, and candidates are required to do **ALL** items.
2. Two sheets of graph paper are provided for use in some items. Also, a self-powered calculator may be used for calculations and to obtain special values.
3. Candidates are reminded to show all necessary steps and calculations as credit may be given for incomplete or partially correct solutions. Correct answers without calculations will not merit full marks.
4. Answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the Chief Supervisor prior to the first session, and have been posted for further reference near the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

- Materials required
- Materials not permitted
- Use of handheld calculator
- Use of pen or pencil
- Communication and movement during the examination
- Punctuality
- Leaving the room
- Use of answer booklets
- Completion of required information
- Use of unauthorized means, and penalties

Value

1. (a) Do any **ONE** of the following — either (i) or (ii).

3 (i) Solve for x: $2 \log x + \log 6 = \log 24$

3 (ii) Write the equation of the linear function that contains the ordered pairs A(−6, 2) and B(−4, 6).

3 (b) A radioactive element has a law of decay given by the following function:

$$E(x) = 800 \times 2^{\text{[illegible]}}$$

After 400 years, what is the mass of the element?

3 (c) Using the graph paper provided and an appropriate table of values, draw the graph of the following function:

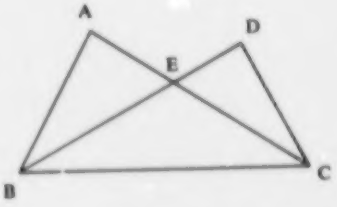
$$y = 3^{x-1}$$

4 2. (a) Write a two-column proof (statements and reasons) for **ONE** of the following — either (i) or (ii).

(i) **GIVEN:** AC bisects ∠ DCB

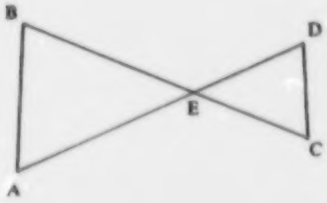
$$\frac{DC}{AC} = \frac{EC}{BC}$$

PROVE: ∠ A = ∠ D



(ii) **GIVEN:** AB ∥ CD

PROVE: BE • DE = CE • AE



2 (b) A triangle has sides that measure 5 cm, 6 cm and 9 cm, and a second triangle has a perimeter of 30 cm. If the two triangles are similar, what is the length of the shortest side of the second triangle?

3 3. (a) Solve the quadratic equation:

$$3x^2 - 4x - 2 = 0$$

(b) Set up appropriate equations and solve the following problems:

3 (i) The Jones have 120 m of fencing with which to make a rectangular rabbits' pen. If they used a side of the house as a barrier, what is the maximum area they can enclose?

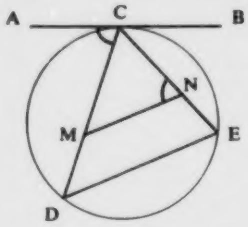
3 (ii) The length of a rectangle is 4 cm longer than twice its width. If the area is 96 cm², calculate the length and width of the rectangle.

Value

4 **4.** (a) Write a two-column proof (statements and reasons) for **ONE** of the following — either (i) or (ii):

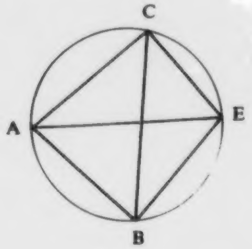
(i) **GIVEN:** AB is a tangent
$\angle ACD = \angle CNM$

PROVE: $MN \parallel DE$

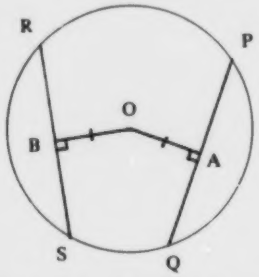


(ii) **GIVEN:** Points A, B, E, and C are concyclic
AE bisects $\angle CAB$.

PROVE: $\angle CBE = \angle BCE$



2 (b) In the diagram below, O is the centre of the circle. PQ and RS are chords; $OA \perp PQ$, $OB \perp RS$, $OA = OB$, $AP = x + 5$ and $RS = 5x - 8$. Find the value of x.



3 (c) Two parallel chords of a circle on opposite sides of the centre are 24 cm and 10 cm in length. If the diameter of the circle is 26 cm, how far apart are the chords?

2 **5.** (a) Change the equation $x^2 + y^2 + 4x - 6y - 7 = 0$ to the standard form of an equation of a circle.

4 (b) Using the graph paper provided and an appropriate table of values, draw the graph of the equation $16y - 2x^2 = 0$ showing clearly its focus and directrix.

3 **6.** (a) When the angle of elevation of the sun is 31°, the shadow of a tree is 29 metres long. What is the height of the tree?

3 (b) If $\cot \theta = 0.2679$, find two values of θ to the nearest degree. ($0° \leq \theta \leq 360°$).

3 (c) The point $(-5, -12)$ lies on the terminal arm of θ. Find $\sin \theta$ and $\cos \theta$.

4 **7.** (a) A helicopter is sighted from two observation points on the ground. The first sighting has an angle of elevation of 68° while the second sighting has an angle of elevation of 39°. If the two observation points are 54 km apart, find the distance between the helicopter and the second observation point.

4 (b) Prove the identity: $\csc \theta - \sin \theta = \cos \theta \cdot \cot \theta$.

4 (c) Using the graph paper provided and an appropriate table of values, draw the graph of the function $y = \sin \theta, -\pi \leq \theta \leq \pi$.

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

MUSIC THEORY 3100

NOVEMBER 1989

Value: 100 marks

Time: 2 hours

Examination Number ________________

GENERAL INSTRUCTIONS

1. The examination consists of objective and essay items, arranged in two sections as follows, and candidates are required to do **BOTH** sections as directed in each:

   SECTION A — Short answer items — 40%
   SECTION B — Short answer and essay items — 60%

2. Note that Section A will be administered by tape. Instructions for individual items are written on the paper and will be read on the tape as each item is presented. LISTEN CAREFULLY AS THE TAPE WILL NOT BE STOPPED FOR REPETITION. Section B is presented entirely in written form on this paper.

3. All answers are to be written on this paper. Do not use allotted answer spaces for rough drafts which you may wish to discard.

4. Be sure to write your Examination Number in the space above.

REGULATIONS FOR CANDIDATES

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— Materials required
— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

Value

SECTION A

Do **ALL** items in this section as directed on the tape. Total value: 40%.

6 1. **Scale Identification**

You will hear three scales, each played **twice**.You are to identify each scale as being either major, natural minor, harmonic minor, melodic minor, whole tone, pentatonic or chromatic, and write the correct name in the blank provided.

EXAMPLE: ______Harmonic Minor______

(a) ________________________________

(b) ________________________________

(c) ________________________________

4 2. **Interval Identification**

You will hear two intervals, each played **twice** melodically and harmonically. You are to write the name of each interval in the space provided. Only major, minor, perfect, augmented and diminished intervals will be used. Abbreviations are not to be used in your answer.

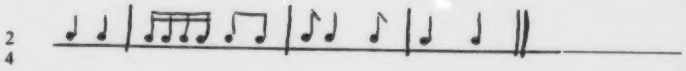
EXAMPLE: ______Major Third______

(a) ________________________________

(b) ________________________________

8 3. **Rhythmic Dictation**

You will hear two rhythmic patterns, each preceded by two measures of tempo beats to establish rhythmical feel and tempo. You are to notate each rhythm on the blank line provided adding the bar lines for each. Each pattern will be performed **four** times. Note that the time signature is given in each case.



(a) 3/4 ________________________________

(b) 6/8 ________________________________

6 4. **Chord Identification**

You will hear three chords, each played **three** times in both block form and broken form. You are to identify the quality of each chord as either major, minor, diminished, augmented, or dominant 7th, and write the correct response in the blank provided.

EXAMPLE: ______Major______

(a) ________________________________

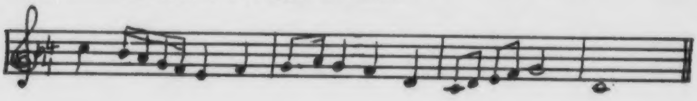
(b) ________________________________

(c) ________________________________

Value

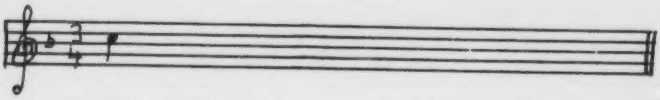
8 5. **Melodic Dictation**

You will hear two melodic phrases, each preceded by a tonic chord played in solid and in broken form to establish the tonal centre. You are to notate each melody on the blank staff provided. Each staff contains the clef, the key signature and time signature, and the beginning note for the pertinent melody. Each melody will be played **four** times. After you have finished writing each melody, determine the key area and, on the blank provided, name the key indicating whether it is major or minor.



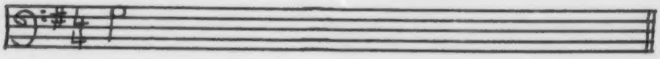
KEY F Major

(a)



KEY ____________________

(b)



KEY ____________________

4 6. **Cadence Identification**

You will hear two cadences, each performed **three** times. The tonic chord will be played before each to establish the key. You are to identify each cadence you hear from the four provided on your exam paper, and indicate your choice by checking the box under the appropriate cadence.

	PERFECT	INTERRUPTED	PLAGAL	IMPERFECT
EXAMPLE:	☒	☐	☐	☐
(a)	☐	☐	☐	☐
(b)	☐	☐	☐	☐

Value

4 7. **Chord Progression Identification**

You will hear two chord progressions, each performed **three** times. You are to identify each chord progression you hear from the four provided on your paper, and indicate your choice by circling the letter identifying the appropriate progression.

EXAMPLE:

[✓ A]	I	I	V	vi	V	I
B	i	i	V	VI	V	i
C	i	III	V	vi	v	I
D	I	I	IV	V	IV	I

(a)

A	I	ii	V	vi	I
B	I	ii	IV	V	I
C	I	ii	IV	vii°	I
D	I	ii	V	vii°	I

(b)

A	I	IV	V	ii	V	I
B	i	V	VI	iv	V	i
C	I	IV	V	vi	IV	I
D	i	iv	V	VI	iv	i

SECTION B

Do **ALL** items in this section as directed in each. Total Value 60%.

3 8. Construct any three of the following scales, ascending and descending, inserting the proper key signature, if necessary.

(a) Eb Melodic Minor

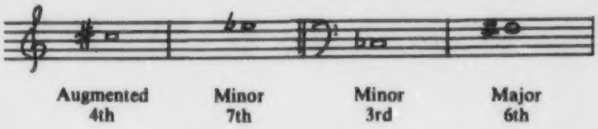
(b) B Major

(c) C Whole Tone

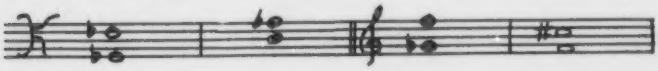
(d) F Pentatonic

Value

2 9. (a) Complete the following intervals by adding the note BELOW the given note:



2 (b) Identify the following intervals, and write the names in the blanks provided. Abbreviations may not be used.



__________ __________ __________ __________

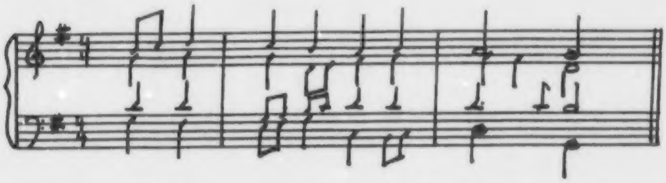
8 10. Transpose the four-part chorale given below for the following instruments: (Use the "open score" format provided below.)

Soprano part — Piccolo

Alto part — Bb Clarinet

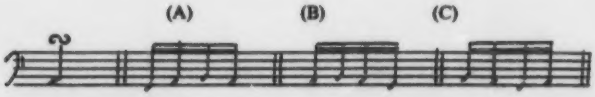
Tenor part — Eb Alto Saxophone

Bass part — Bassoon



4 11. Following are three musical ornaments with three possible performances indicated for each. Only one of the given performances is appropriate for each ornament. In the blank spaces provided, name the ornaments and provide the letters of the correct performances for any TWO.

(i)

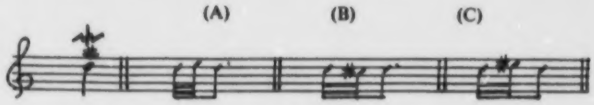


ORNAMENT NAME ______________________________

PERFORMANCE LETTER ______________________________

Value

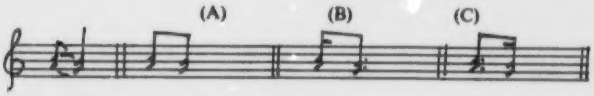
(ii)



ORNAMENT NAME ____________________

PERFORMANCE LETTER ____________________

(iii)



ORNAMENT NAME ____________________

PERFORMANCE LETTER ____________________

4 12. Define any **FOUR** of the following musical terms:

(a) Allargando ____________________

____

(b) Con Spirito ____________________

____

(c) Portamento ____________________

____

(d) Grandioso ____________________

____

(e) Leggiero ____________________

____

(f) L'istesso Tempo ____________________

____

4 13. Define any **FOUR** of the following musical signs:

(a) V.S. ____________________

____

(b) ⊓ ____________________

____

(c) D.C. ____________________

____

(d) 3 ____________________

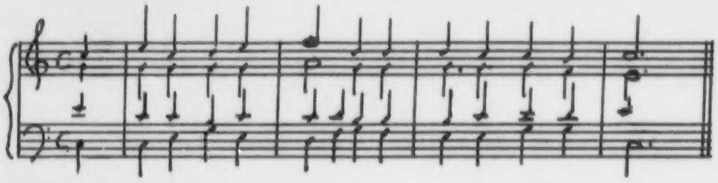
____

(e) rf ____________________

____

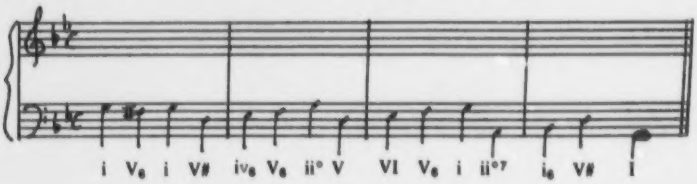
Value

5 14. (a) Provide a complete harmonic analysis for the following four-part chorale. Be sure to state the key.



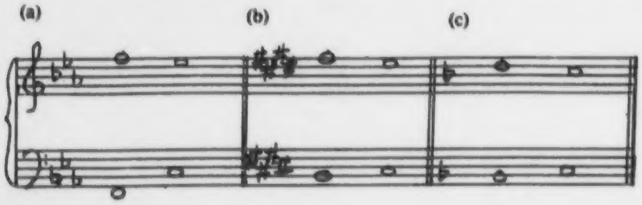
KEY: ______________________

6 (b) Observing the bass line and the given harmonic analysis, construct the soprano, alto and tenor parts to complete the chorale. Be sure to state the key.



KEY: ______________________

6 15. Complete the following cadences for four voices by adding alto and tenor parts, and write the name of each cadence in the blank provided below. All chords are in root position.



____________ ____________ ____________

8 16. Describe briefly any **FOUR** of the following musical forms. You may use diagrams to aid in your answers.

(a) Sonata-allegro ____

____

____

____

____

(b) Theme with Variations

Value

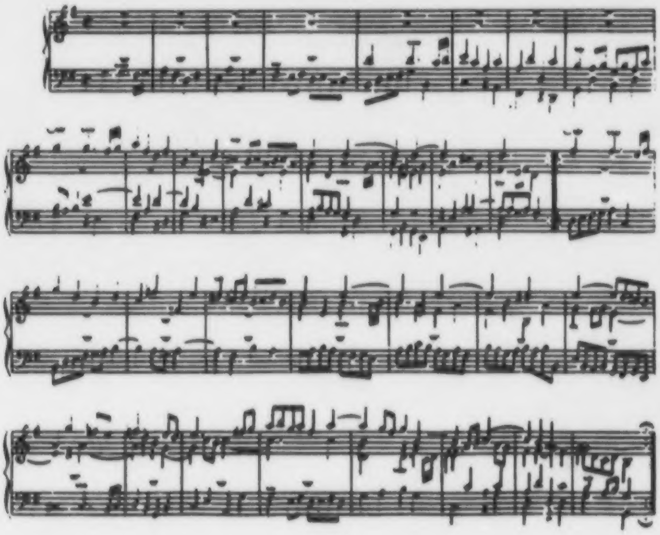
(c) Rondo

(d) Binary

(e) Fugue

Value

8 17. Analyze the formal structure of the following musical selection, and in the space following the selection, name the form, and discuss the formal aspects as well as the compositional devices utilized in the composition.



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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

MUSIC HISTORY 3101

NOVEMBER 1989

Value: 100 marks

Time: 2 hours

Examination Number ______________

GENERAL INSTRUCTIONS

1. The examination consists of three sections as follows:

   SECTION A — Short answer (taped) — 16%
   SECTION B — Short answer (written) — 42%
   SECTION C — Essay Items — 42%

2. Note that Section A will be administered by tape. Instructions for individual items are written on the paper and will be read on the tape as each item is presented. LISTEN CAREFULLY AS THE TAPE WILL NOT BE STOPPED FOR REPETITION. All other sections are presented in written form only on this paper.
3. All answers are to be written in this paper.
4. Be sure to write your Examination Number in the space above.

REGULATIONS FOR CANDIDATES

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— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

Value

SECTION A

In this section, candidates are required to listen to short excerpts from eight musical selections, and to identify each composition and its composer. Identification of the specific movement or section within a particular composition is not required, and either the English or any original foreign language title may be used. Each excerpt will be played only once, and will be followed by sufficient pause for candidates to respond. Total value: 16%.

16 1.

	Title of Composition	**Composer**
(a)		
(b)		
(c)		
(d)		
(e)		
(f)		
(g)		
(h)		

SECTION B

Do ALL items in this section. Total value: 42%.

10 2.. From the following list, identify the composer of each of the compositions lettered (a) to (j) below:

Composers

Berlioz
Bartok
Verdi
Debussy
Wagner
Chopin
Gershwin
Schubert
Berg
Schumann
Philip Glass
Smetana
Mozart
Stravinsky

(a) "Rhapsody in Blue" .... (a) ____________

(b) "Glassworks" .... (b) ____________

(c) "Aida" .... (c) ____________

(d) "The Bartered Bride" .... (d) ____________

(e) "Firebird" .... (e) ____________

(f) "L'Enfance du Christ" .... (f) ____________

(g) "Gretchen at the Spinning Wheel" .... (g) ____________

(h) "Revolutionary Etude" .... (h) ____________

(i) "Pelléas et Melisande" .... (i) ____________

(j) "Music for Strings, Percussion, and Celesta" .... (j) ____________

Value

10 3. In the space provided at the right, write the term or the name of a person described in each of the following statements:

(a) Music that deliberately allows a degree of chance during the performance. .... (a) ________________

(b) The avoidance of any kind of tonal centre. .... (b) ________________

(c) Twentieth century technique whereby two or more streams of harmony are played simultaneously. ..... (c) ________________

(d) A term describing a predominant feature of twentieth century texture. .... (d) ________________

(e) A type of song structure in which the same melody is repeated with every stanza of the poem. .... (e) ________________

(f) A type of electronic music which evolved out of Paris; it is made up of natural sounds and sound effects recorded on discs and altered by changing the speed of the records. .... (f) ________________

(g) A type of tenor popularized in German operas; he is required to display endurance, brilliance and expressive power. .... (g) ________________

(h) The term referring to opera which is sung throughout. (h) ________________

(i) The German answer to French Impressionism. ...... (i) ________________

(j) The Russian composer who was supported for many years by a benefactress named Nadegda von Meek .. (j) ________________

Write the letter of the correct response for each of the following in the blank at the right.

(a) What Canadian composer is well known for his educational music intended for youth? .... (a)______
- (A) Healy Willan
- (B) Murray Schafer
- (C) Sir Ernest Campbell MacMillan
- (D) Charles Ives

(b) What type of song structure is composed from beginning to end without repetitions of whole sections? .... (b)______
- (A) Durchkomponiert
- (B) Vocalise
- (C) Aria
- (D) Impromptu

(c) Which of the following is a study piece dealing with a specific technical problem such as the execution of rapid arpeggios? .... (c)______
- (A) Scherzo
- (B) Prelude
- (C) Capriccio
- (D) Etude

(d) What term is used to denote music for which the composer has not indicated any non-musical associations, whether a story, scene, or mood? .... (d)______
- (A) Absolute
- (B) Minimal
- (C) Cyclical
- (D) Impressionistic

(e) Which of the following was a Romantic composer who was dedicated to preserving the purity of the Classical style? .... (e)______
- (A) Berlioz
- (B) Liszt
- (C) Brahms
- (D) Wagner

Value

(f) Which of the following is a large scale musical work for solo instrument and orchestra in several movements? .... (f) ______

(A) Oratorio
(B) Concerto
(C) Cadenza
(D) Opera

5. Do any **FOUR** of parts (a) to (f).

4 (a) Describe briefly one musical innovation each of any **two** of the following composers:

Bartok	E. Varese
Chopin	Berlioz

4 (b) Distinguish between **two** of the following terms: concert overture, symphonic poem, and incidental music.

4 (c) Define the term "exoticism", and describe how it manifested itself in Romantic music.

Value

4 (d) Describe any **two** of the following elements of twentieth century music: rhythm, melody, harmony, orchestration.

4 (e) Briefly explain how the Industrial Revolution contributed to the musical advancement of the Romantic era.

4 (f) Distinguish between the terms **aria** and **recitative**.

Value

SECTION C

Do item # 6 and any two others in this section — **THREE** items in all. Total value: 42%.

14 6. Choose **one** of the following Canadian composers and discuss how he has contributed to the field of twentieth century music. Name at least two works by the composer.

(a) Murray Schafer
(b) Murray Adaskin
(c) Healy Willan
(d) Sir Ernest Campbell MacMillan

14 7. Choose one of the following pairs of composers and compare and contrast their musical styles:

(a) Verdi and Wagner
(b) Webern and Berg
(c) Brahms and Chopin

Value

14 8. Discuss the relationship between program music and the rising tide of nationalism in the nineteenth century. Include in your answer a detailed discussion of one programmatic work which exemplifies these trends.

14 9. Write a detailed essay on the characteristics of Impressionism in music. In your essay, mention the names of one symbolist poet and one impressionist painter.

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

INSTRUMENTAL PERFORMANCE 3104

NOVEMBER 1989

Value: 100 marks

Time: 2 hours

Examination Number ________________

GENERAL INSTRUCTIONS

1. The examination consists of objective and essay items, arranged in two sections as follows, and candidates are required to do **BOTH** sections as directed in each:

   SECTION A — Short answer items — 50%
   SECTION B — Short answer and essay items — 50%

2. Note that Section A will be administered by tape. Instructions for individual items are written on the paper and will be read on the tape as each item is presented. LISTEN VERY CAREFULLY AS THE TAPE WILL NOT BE STOPPED FOR REPETITION. Section B is presented in written form only on this paper.

3. All answers are to be written on this paper. Do not use allotted answer spaces for rough drafts which you may wish to discard.

4. Be sure to write your Examination Number in the space above.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the Chief Supervisor prior to the first session, and have been posted for further reference near the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

— Materials required
— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

Value

SECTION A

Do **ALL** items in this section as directed on the tape. Total value: 50%.

8 1. **METER IDENTIFICATION**

You will hear four musical selections, numbered (i) to (iv), each played once. For each selection, three possible meters are indicated on your paper. Listen carefully to each selection, and circle the correct meter on your answer paper.

EXAMPLE

[✓ $\frac{2}{4}$] $\frac{3}{4}$ $\frac{6}{8}$

(i) $\frac{3}{4}$ $\frac{4}{4}$ $\frac{6}{8}$

(ii) $\frac{3}{4}$ $\frac{4}{4}$ $\frac{6}{8}$

(iii) $\frac{3}{4}$ $\frac{4}{4}$ $\frac{6}{8}$

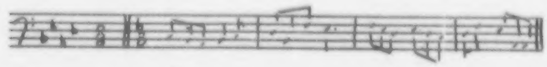
(iv) $\frac{2}{4}$ $\frac{3}{4}$ $\frac{6}{8}$

12 2. **MELODY IDENTIFICATION**

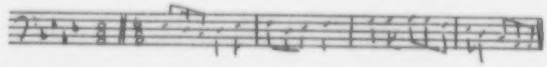
You will hear six melodies, numbered (i) to (vi), each played twice. For each melody, three possible notations, A, B, and C, are given on your paper. You will be given time to examine the three notations for each of the six melodies. Listen carefully to each melody, and write the letter of the correct notation in the blank provided. Note that a tonic chord will be sounded at the beginning of each melody to establish the key.

EXAMPLE .... (EX) B

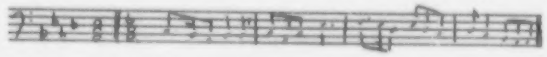
(A)



(B)

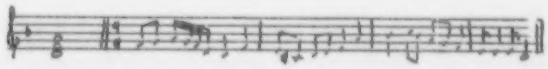


(C)



Melody (i) .... (i) ______

(A)



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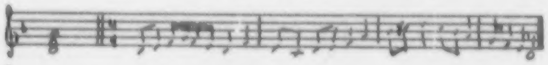

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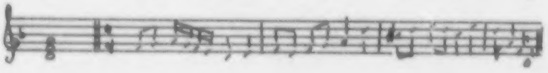
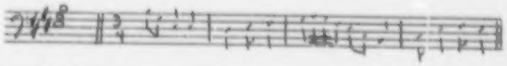


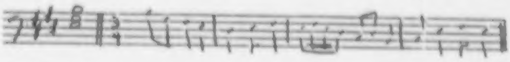
Value

Melody (ii).. (ii) ______

(A)



(B)



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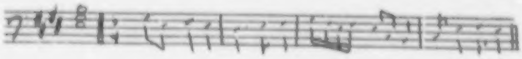
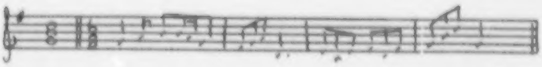


Melody (iii).. (iii) ______

(A)



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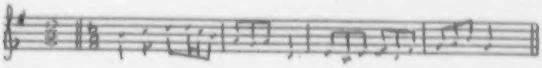

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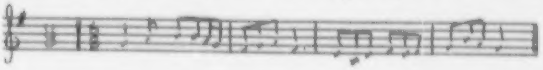
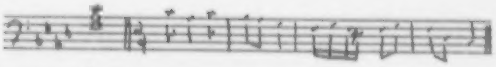


Melody (iv).. (iv) ______

(A)



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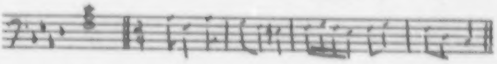
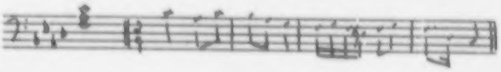
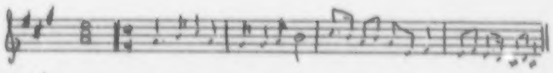


(C)

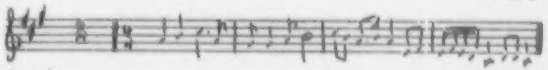


Melody (v).. (v) ______

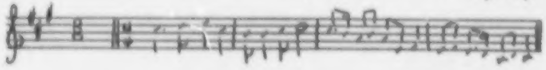
(A)



(B)



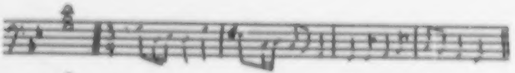
(C)



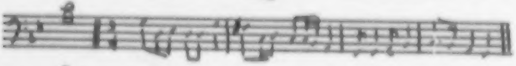
Value

Melody (vi) .... (vi) ______

(A)



(B)



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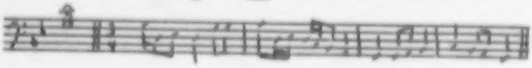
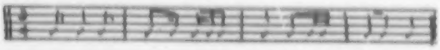


12 3. **RHYTHM IDENTIFICATION**

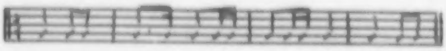
You will hear six rhythms, numbered (i) to (vi), each performed twice. For each rhythm, three possible notations, A, B, and C, are given on your paper. You will be given time to examine the three notations for each of the six rhythm patterns. Listen carefully to each rhythm, and write the letter of the correct notation in the blank provided. To establish the beat, each rhythm will be preceded by one measure in which the beat will be clapped.

EXAMPLE .... (EX) __B__

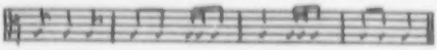
(A)



(B)

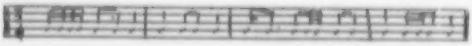


(C)



Rhythm (i) .... (i) ______

(A)



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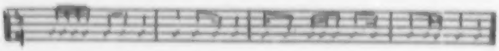
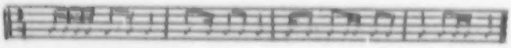
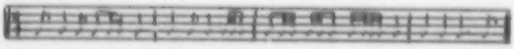


(C)



Rhythm (ii) .... (ii) ______

(A)



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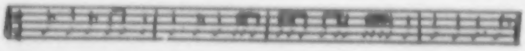

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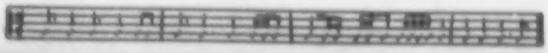
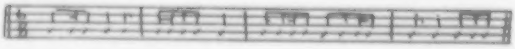


Value

Rhythm (iii) .... (iii) ______

(A)



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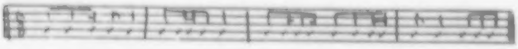

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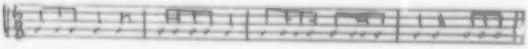
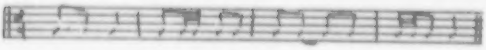
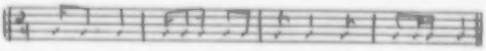


Rhythm (iv) .... (iv) ______

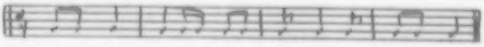
(A)



(B)

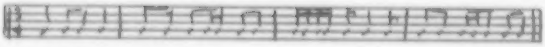


(C)

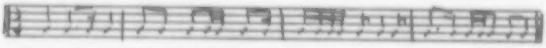


Rhythm (v) .... (v) ______

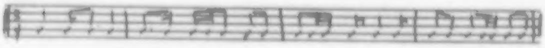
(A)



(B)

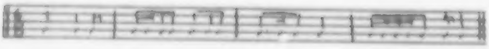


(C)



Rhythm (vi) .... (vi) ______

(A)



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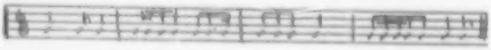

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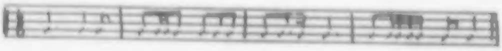
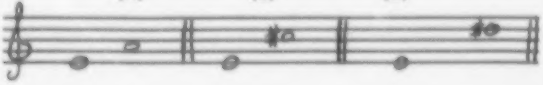


Value
18 4. **INTERVAL IDENTIFICATION**

You will hear six intervals, numbered (i) to (vi), each played twice. For each interval, three possible notations, A, B, and C, are given on your paper. You will be given time to examine the three notations for each of the six intervals. Listen carefully to each interval, and write the letter of the correct notation in the blank provided.

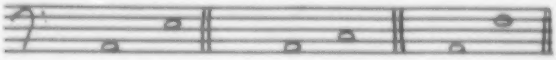
EXAMPLE .... (EX) C

(A) (B) (C)



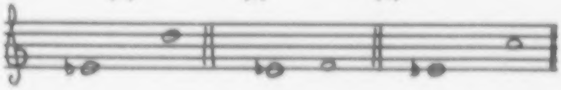
Interval (i) .... (i) ______

(A) (B) (C)



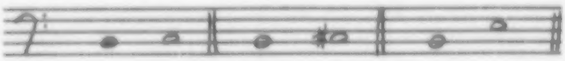
Interval (ii) .... (ii) ______

(A) (B) (C)



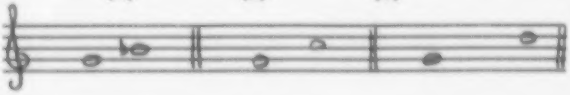
Interval (iii) .... (iii) ______

(A) (B) (C)



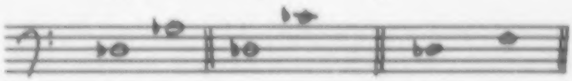
Interval (iv) .... (iv) ______

(A) (B) (C)



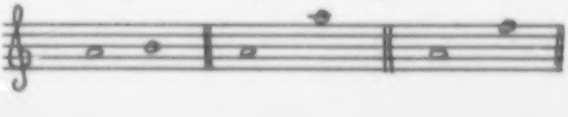
Interval (v) .... (v) ______

(A) (B) (C)



Interval (vi) .... (vi) ______

(A) (B) (C)



Value

SECTION B

Do **ALL** items in this section. Total value: 50%.

7 5. Write the letter of the correct response for each of the following in the blank at the right:

(a) What is the term used for a moderate walking tempo? (a)________
(A) allegro
(B) lento
(C) marcato
(D) andante

(b) How can increased breath and technical control be maintained when playing an instrument? .... (b)________
(A) by watching the conductor
(B) by listening to the rest of the ensemble
(C) through good posture
(D) by holding the instrument properly

(c) What term is used in music for pitch? .... (c)________
(A) half note
(B) intonation
(C) staccato
(D) fermata

(d) How can the tempo of an instrumental piece be maintained by a band or orchestra performing at a concert? ...... (d)________
(A) by tapping the feet
(B) by listening to the percussion section
(C) by following the conductor
(D) by using a metronome

(e) What term means a very fast tempo? .... (e)________
(A) presto
(B) subito
(C) lento
(D) agitato

(f) Through what means primarily does the conductor increase expressiveness in music played by an ensemble? .... (f)________
(A) the use of the hand holding the baton
(B) the use of both hands
(C) the use of the left hand
(D) eye contact

(g) Through which pattern, other than six beats to a bar, can a $\frac{6}{8}$ time signature be conducted? .... (g)________
(A) one beat to a bar
(B) two beats to a bar
(C) three beats to a bar
(D) four beats to a bar

Value

10 6. In the space provided, write the letter of the term from Column I which corresponds to each item in Column II. The first one is done as an example.

COLUMN I

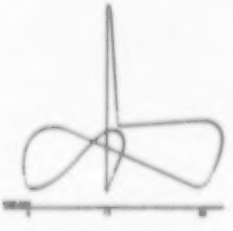
(A) pentatonic
(B) tremolo
(C) dolce
(D) harmonics
(E) fermata 𝄐
(F) absolute music
(G) atonal
(H) rubato
(I) piano (p)
(J) senza
(K) exposition

COLUMN II

(a) initial statement of themes ....(a) K
(b) flexible tempo ....(b) ______
(c) soft ....(c) ______
(d) absence of dominant-tonic relationship ....(d) ______
(e) sweet, gentle ....(e) ______
(f) without ....(f) ______
(g) no association with a program ....(g) ______
(h) upper partials ....(h) ______
(i) rapid repetition of note ....(i) ______
(j) five-note scale ....(j) ______
(k) hold ....(k) ______

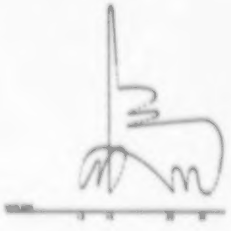
6 7. (a) For each of the following diagrams, **circle** the correct time signature corresponding to the conducting pattern illustrated in the diagram.

(i)



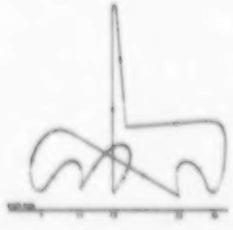
$\frac{4}{4}$ $\frac{2}{4}$ $\frac{6}{8}$

(ii)



$\frac{3}{4}$ $\frac{9}{8}$ $\frac{6}{8}$

(iii)



$\frac{2}{4}$ $\frac{6}{8}$ $\frac{9}{8}$

Value

9 (b) Briefly discuss the role of the conductor in an instrumental ensemble.

9 8. (a) Briefly discuss why **one** of the following is important in the history of instrumental music:

(i) Hector Berlioz
(ii) Johann Sebastian Bach
(iii) Franz Joseph Haydn

Value
9

(b) Briefly discuss **one** of the following:

(i) Program music

(ii) The form structure of the classical symphony

(iii) The use of the chorale in the Baroque Era by Johann Sebastian Bach

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

WESTERN RELIGIONS 3100

NOVEMBER 1989

PART I

Value: 25 marks

Time: 30 minutes

Examination Number ________________

GENERAL INSTRUCTIONS

1. Part I consists of objective items only, arranged in two sections as follows, and candidates are required to do **ALL** items.

   SECTION A — Completion items — 15%
   SECTION B — Multiple-choice items — 10%

2. All answers are to be written in this paper.
3. Be sure to write your Examination Number in the space provided above.

REGULATIONS FOR CANDIDATES

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- Materials required
- Materials not permitted
- Use of handheld calculator
- Use of pen or pencil
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- Use of unauthorized means, and penalties

SECTION A

Do **ALL** items in this section by writing in the blank for each the term defined or described by the statement. Total value: 15%.

1. The special celebration observed each year by Jewish people to glorify their escape from slavery in Egypt and their Exodus under Moses' leadership .... (1) ________________
2. An individual in any society who holds the firm belief that there is no God.. (2) ________________
3. A small, rectangular shrine found at Mecca, which houses the black stone, and is the main centre for pilgrims. .... (3) ________________
4. The liberation from sin, and reconcilation with God in and through Jesus Christ.. (4) ________________
5. A group of followers sharing an intense and enthusiastic belief in one person or religion. .... (5) ________________
6. The feast or meal held by the Jews on the eve of the Passover. . (6) ________________
7. The authentic teachings, sayings and deeds of Mohammed...... (7) ________________
8. The most sacred book of the Jewish religion. .... (8) ________________
9. The Mystic movement in Islam. .... (9) ________________
10. The Jewish day of rest and worship. .... (10) ________________
11. The belief that some souls are selected by God for salvation and others for damnation even before birth. .... (11) ________________
12. A partition used in Orthodox Jewish congregations to separate the women from the men. .... (12) ________________
13. The special call by which the Moslems are beckoned to prayer five times a day. .... (13) ________________
14. The Christian belief in three divine persons in one God. .... (14) ________________
15. The sin of Adam, with consequences for all people .... (15) ________________

SECTION B

Do **ALL** of the following by writing the letter of the correct response for each in the blank at the right. Total value: 10%.

16. Who is generally considered to be the greatest preacher of modern time? ...... (16) ________
    - (A) Oral Roberts
    - (B) Rex Humbard
    - (C) Billy Graham
    - (D) Jerry Falwell

17. Which is the oldest of the Jewish rituals? .... (17) ________
    - (A) Bar Mitzvah
    - (B) Prayer
    - (C) Circumcision
    - (D) Kashruth

18. In a Mosque a large decorated niche indicates the direction of the Kaaba in Mecca. What name is given to this niche? .... (18) ________
    - (A) Sura
    - (B) Khatib
    - (C) Pulpit
    - (D) Mihrab

19. What was the counter-reformation group formed in 1540 by Ignatius Loyola? . . (19) ________
(A) Franciscans
(B) Jesuits
(C) Apostles
(D) Dominicans

20. What term indicates the title taken by successors to Mohammed as the spiritual and political leaders of the Moslem world? .... (20) ________
(A) Caliph
(B) Imam
(C) Sufi
(D) Muezzin

21. What was the name of the nature gods the Jews worshipped before they were captured and taken into slavery? .... (21) ________
(A) Daevas
(B) Jinns
(C) Baals
(D) Animists

22. What group of men, called the "Black Friars", went as preachers in imitation of the apostle Paul? .... (22) ________
(A) Franciscans
(B) Monastics
(C) Hermits
(D) Dominicans

23. Who was the first Christian martyr? .... (23) ________
(A) Peter
(B) Stephen
(C) Saul
(D) Simon

24. What is the name given to the Day of Atonement, the holiest day in the Jewish year? (24) ________
(A) Sukkoth
(B) Hannukah
(C) Pentecost
(D) Yom Kippur

25. What is the name of the unleavened bread eaten especially during the festival of Passover? .... (25) ________
(A) Matzah
(B) Mitzvot
(C) Minyan
(D) Mishnah

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

WESTERN RELIGIONS 3100

NOVEMBER 1989

PART II

Value: 75 marks

Time: 1 hour, 30 minutes

GENERAL INSTRUCTIONS

1. Part II consists of essay items only, arranged in four sections with requirements as follows:

   SECTION A — Do any ONE — 15%
   SECTION B — Do any ONE — 15%
   SECTION C — Do any ONE — 15%
   SECTION D — Do any TWO — 30%

2. Answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

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- — Materials not permitted
- — Use of handheld calculator
- — Use of pen or pencil
- — Communication and movement during the examination
- — Punctuality
- — Leaving the room
- — Use of answer booklets
- — Completion of required information
- — Use of unauthorized means, and penalties

Value

SECTION A

Do any **ONE** complete item in this section. Total value: 15%.

15 1. Festivals have played an important part in helping the Jewish people keep alive their culture and traditions. Identify and explain how **THREE** of the following festivals were important to the Jews.

(a) Sabbath

(b) Yom Kippur

(c) Passover

(d) Hanakkah

15 2. Write explanatory notes on any **THREE** of the following:

(a) The Great Dispersal

(b) Bar Mitzvah

(c) The Balfour Declaration

(d) The Chosen People

3. The Jews believe in God.

9 (a) Explain the Jewish concept of the Messiah. How do the Jews view Jesus' claim to be the Messiah?

6 (b) Explain the Jewish concept of God.

SECTION B

Do any **ONE** complete item in this section. Total value: 15%.

4. After the Reformation, the Catholic Church had its own Counter-Reformation.

6 (a) Explain why the Counter-Reformation occurred in the Catholic Church.

9 (b) Two important elements in the Counter-Reformation were the Council of Trent and the formation of the Jesuits. Explain the importance of each of these.

15 5. Identify **THREE** of the following and explain briefly the significance of each in the development of early Christianity.

(a) The Arian Heresy

(b) Monasticism

(c) St. Paul

(d) St. John the Baptist

6. In 1054, the Eastern and Western parts of the Church separated.

4 (a) What were **TWO** of the reasons for the split between the Eastern and Western parts of the Church.

9 (b) Outline **THREE** main differences between the Eastern (Orthodox) and the Western (Roman Catholic) Churches.

2 (c) How have the Orthodox and Roman Catholic Churches recently tried to overcome their differences?

Value

SECTION C

Do any **ONE** complete item in this section. Total value: 15%.

15 7. State the **FIVE** Articles of Faith of the Moslem religion, and explain what each article means for the believer.

15 8. Write explanatory notes on any **THREE** of the following:

(a) Shiites

(b) Bahaism

(c) Jihad

(d) Koran

(e) Mecca

15 9. In order to reach heaven, Moslems must follow "The Five Pillars" of faith. List and give a brief explanation of these "Five Pillars".

SECTION D

Do any **TWO** complete items in this section. Total value: 30%.

15 10. The concept of God has been viewed differently by various religious faiths. Write an explanatory note on each of the following views of God.

(a) The Eastern view

(b) The Western view

(c) The Deist view

15 11. Select any **THREE** of the following and write an explanatory note on each.

(a) The Moral Majority

(b) The Jesus Revolution

(c) The Church of Scientology

(d) Jonestown

15 12. In recent years, the Churches in Canada have become involved in a variety of social and political activities. Discuss **FIVE** of these activities in a well organized essay.

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

WORLD RELIGIONS 3101

NOVEMBER 1989

PART I

Value: 50 marks

Time: 1 hour

Examination Number ______________

GENERAL INSTRUCTIONS

1. Part I consists of objective items only arranged in two sections as follows, and candidates are required to do **ALL** items.

   SECTION A — 31 multiple-choice — 31%
   SECTION B — 19 completion — 19%

2. All answers are to be written in this paper.

3. Be sure to write your Examination Number in the space provided above.

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SECTION A

Write the letter of the correct response for each of the following in the blank at the right. Total value: 31%.

1. Which of the following is the highest virtue in Confucianism? .... (1) ______
   (A) Cheng-ming
   (B) Te
   (C) Jen
   (D) Chun-tzv

2. By which of the following was China characterized prior to the birth of Confucius? .... (2) ______
   (A) Peace and prosperity
   (B) Widespread christianity
   (C) Social anarchy and corruption
   (D) Emphasis on the "Koran" in daily life

3. Which branch of Buddhism practices a proselytizing method called "Shakubuku"? (3) ______
   (A) Zen
   (B) Conservative
   (C) Nichiren Shoshu Buddhism
   (D) Theravada Buddhism

4. Which of the following branches of Buddhism has the largest volume of scriptures? .... (4) ______
   (A) Theravada
   (B) Zen
   (C) Mahayana
   (D) Theosophical Society

5. Which of the following, according to Islam tradition, is **NOT** considered "inspired"? .... (5) ______
   (A) Torah
   (B) Acts
   (C) Psalms
   (D) Koran

6. Which of the following prophets is considered to be most important to Islam? . (6) ______
   (A) Adam
   (B) Abraham
   (C) Jesus
   (D) Mohammed

7. When comparing the Islamic sacred scripture with the New Testament, which of the following is correct? .... (7) ______
   (A) They were written in the same language.
   (B) The New Testament is larger.
   (C) The New Testament is smaller.
   (D) They both had the same author.

8. What term refers to the flight of Mohammed and his followers from Mecca to Medina? .... (8) ______
   (A) Vision
   (B) Sunna
   (C) Hijira
   (D) Ijma

9. Which of the following is one of two major epic tales of India? .... (9) ______
   (A) Puranas
   (B) Bhakti
   (C) Krishna
   (D) Ramayana

10. Which of the following consists of an entire collection of Hindu wisdom books? .... (10) ______
   (A) Mantras
   (B) Vedas
   (C) Brahmans
   (D) Ayrinas

11. Which of the following is a collection of speculative Hindu treatises which are similar to the teachings of Mahayana Buddhism? .... (11) ______
(A) Upanishads
(B) Bhakti
(C) Sudras
(D) Manu

12. Which of the following animals is considered sacred in Hinduism? .... (12) ______
(A) Horse
(B) Camel
(C) Cow
(D) Lion

13. Which of the following refers to the transmigration of souls in Hindu theology? (13) ______
(A) Samsara
(B) Karma
(C) Atman
(D) Maya

14. In which of the following approximate periods did the Jewish Exile occur?..... (14) ______
(A) 1948-1968
(B) 1933-1945
(C) 608 B.C. - 536 B.C.
(D) 1055 B.C. - 896 B.C.

15. Which of the following could be said with respect to Saul's role as Israel's king? (15) ______
(A) During his reign the nation was almost ruined.
(B) He always followed the Lord.
(C) He was loved by the people.
(D) He picked Solomon as his successor.

16. What was the key event of the exile? .... (16) ______
(A) The building of the Temple
(B) The building of Jerusalem
(C) The establishment of synagogues
(D) The election of David as king

17. During what period was the Old Testament translated into Greek? .... (17) ______
(A) The Roman Rule
(B) The Revolt
(C) The Restoration
(D) The Holocaust

18. Which of the following celebrates God's completed creation and the liberation of Israel from the bondage of Egypt? .... (18) ______
(A) The Passover
(B) The Sabbath
(C) Yom Kippur
(D) Hannukah

19. Which of the following refers to the celebration of the Jewish New Year? ..... (19) ______
(A) Rosh Hashanah
(B) Sukkoth
(C) Pentecost
(D) Passover

20. What form of Judaism focuses on the historic religious role of the Jewish faith rather than the acceptance of Palestine as home for all Jews? .... (20) ______
(A) Orthodox Judaism
(B) Conservative Judaism
(C) Reform Judaism
(D) Torah Judaism

21. Which of the following pairs of religions have the most in common? .... (21) ______
(A) Hinduism and Judaism
(B) Buddhism and Christianity
(C) Sikhism and Judaism
(D) Christianity and Judaism

22. Which of the following is a belief held in Hinduism? .... (22) ______
    (A) There is no sin against a Holy God.
    (B) Salvation is by grace.
    (C) God is a personable being.
    (D) The material world is very important.

23. Which of the following is NOT true regarding Nanak? .... (23) ______
    (A) He was born in India.
    (B) His parents were "common" people.
    (C) He was an elderly man when he received his "call".
    (D) He had a Hindu background.

24. Which of the following is most correct regarding the sacred scriptures of Sikhism? .... (24) ______
    (A) They were written in one language.
    (B) The text is very important in Sikh religious training.
    (C) The average Sikh knows a lot about the book.
    (D) It was written by one author.

25. What religion has the focus of a "personal" relationship with God? .... (25) ______
    (A) Hinduism
    (B) Christianity
    (C) Buddhism
    (D) Confucianism

26. What covenant promised that Israel is God's possession? .... (26) ______
    (A) Noahic
    (B) Davidic
    (C) Renewed
    (D) Mosaic

27. Which major religion contains "The Four Noble Truths"? .... (27) ______
    (A) Christianity
    (B) Buddhism
    (C) Islam
    (D) Hinduism

28. Which of the following, according to Christian Theology, is NOT a metaphysical attribute of God? .... (28) ______
    (A) Love
    (B) Eternal
    (C) All-powerful
    (D) All-knowing

29. Which of the following best reflects the Christian doctrine of the Holy Spirit? .. (29) ______
    (A) The bible speaks of the Holy Spirit as a divine person.
    (B) Personable attributes are never displayed by the Holy Spirit.
    (C) The Holy Spirit was not involved in creation.
    (D) Blasphemy is viewed as a forgiveable sin.

30. Which of the following is considered to be central to the Christian Faith? ..... (30) ______
    (A) Salvation by works
    (B) The doctrine of Jesus Christ
    (C) The number of denominations in Canada
    (D) War and hate

31. Which of the following scripture references deals with the authority of scripture? (31) ______
    (A) Genesis 1:1
    (B) 2 Timothy 3:16
    (C) John 10:10
    (D) John 3:16

SECTION B

Write the correct response for each of the following in the blank at the right. Total value: 19%.

32. What religion holds the Koran as sacred? .... (32) ______________

33. What is the sacred book of the Hindus? .... (33) ______________

34. What one word best describes “karma”? .... (34) ______________________

35. Which is a more complex religion, Hinduism or Christianity? ... (35) ______________________

36. What is the most important book available which contains the sayings of both Confucius and his disciples? .... (36) ______________________

37. What two religions did Sikhism attempt to reconcile? .... (37) ______________________

38. Which is the most popular form of Buddhism in the western world? (38) ______________________

39. Who led Israel into the promised land? .... (39) ______________________

40. What group of people angered the northern kingdom in 721 B.C.? (40) ______________________

41. To what does the term “sacred round” refer? .... (41) ______________________

42. In what city was Muhammed born? .... (42) ______________________

43. Which major religion “deplores” translation of their sacred scripture? .... (43) ______________________

44. What is the final goal of all Buddhists? .... (44) ______________________

45. What does the term “Tripitaka” mean? .... (45) ______________________

46. What Jewish term, referring to Jesus, which had a military context in Judaism, was refocused because of the work of Christ? ..... (46) ______________________

47. Besides Catholics, what other branch of Christendom accepts the apocrypha as canon? .... (47) ______________________

48. Which of the world religions studied this year was founded by Suddharta Guatama? .... (48) ______________________

49. What is the sacred book of Sikhism? .... (49) ______________________

50. What central figure in Confucianism followed Confucius and was born in 37 B.C. .... (50) ______________________

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

WORLD RELIGIONS 3101

NOVEMBER 1989

PART II

Value: 50 marks

Time: 1 hour

GENERAL INSTRUCTIONS

1. Part II consists of objective items only arranged in three sections with requirements as follows:

   SECTION A — Do any ONE complete item — 10%
   SECTION B — Do any ONE complete item — 16%
   SECTION C — Do any TWO complete items — 24%

2. All answers are to be written in the answer booklet provided.

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Value

SECTION A

Do any **ONE** complete item from this section. Total value: 10%.

10 1. Develop a rationale for the study of World Religions. Include in your discussion at least five points that would provide meaningful reasons to entice a grade twelve student in Newfoundland to study the world religions.

10 2. Develop an overview regarding the concept of religion. Include in your summary the differing definition, characteristics, and nature of religious experience.

SECTION B

Do any **ONE** complete item from this section. Total value: 16%.

16 3. Compare and contrast Judaism and Islam in the following areas:

(1) origins
(2) key beliefs
(3) concept of God
(4) sacred scripture

16 4. You have just been thrust into an Islamic Society and have been asked to present to a high school class the main similarities and differences between Islam and Christianity. Write a script for your talk, including information relating to the following:

(1) origins
(2) key beliefs
(3) contemporary trends
(4) sacred scripture

SECTION C

Do any **TWO** complete items from this section. Total value: 24%.

5. Write commentaries on the following aspects of Buddhism:

4 (a) The Buddha's Enlightenment

8 (b) The Four Noble Truths and the Eightfold Path

12 6. Explain in detail the difficulties for Christian missionary efforts in India because of Hinduism.

12 7. Contrast Sikhism and Confucianism in **two** of the following areas:

(1) origins
(2) key beliefs in God, Man, Sin, Salvation
(3) appeal to Newfoundland Society

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

GOSPELS 3100

NOVEMBER 1989

PART I

Value: 40 marks

Time: 45 minutes

Examination Number __________________

GENERAL INSTRUCTIONS

1. Part I consists of objective items only arranged in two sections as follows, and candidates are required to do **ALL** items.

   SECTION A — 20 multiple-choice — 20%
   SECTION B — 20 completion — 20%

2. All answers are to be written in this paper.

3. Be sure to write your Examination Number in the space provided above.

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SECTION A

Write the letter of the correct response for each of the following in the blank at the right. Total value 20%.

1. What is the correct name for the doctrine which describes the godhead? .... (1) ______
   (A) Corban
   (B) Trinity
   (C) Reconstruction
   (D) Anabaptist

2. What gospel was written primarily for the Jewish community? .... (2) ______
   (A) John
   (B) Acts
   (C) Matthew
   (D) Mark

3. What was the main goal of the Zealots? .... (3) ______
   (A) to carve out a bible publishing company
   (B) to evangelize the Jewish world
   (C) to persecute Jesus
   (D) to win the independence of Israel

4. What does the term "euangelion" mean? .... (4) ______
   (A) good news
   (B) messiahship
   (C) suffering
   (D) a synagogue ritual

5. What is unique about the term "abba"? .... (5) ______
   (A) It represented Christ's intimate relationship with God the Father.
   (B) It was used only by his disciples when they talked to Jesus on special occasions.
   (C) Judas frequently used the term to describe Christ.
   (D) Jesus' mother used this term to describe her son.

6. Which are the two passion narratives contained in the Gospel of Mark? .... (6) ______
   (A) Paul's missionary journeys, and Peter's confession
   (B) The imprisonment and death of John, and the passion account of Christ
   (C) The passion account of Christ, and Peter's confession
   (D) The stoning of Stephen, and the imprisonment and death of John

7. What term was used by Christ to refer to the Pharisees as "play actors"? ..... (7) ______
   (A) Signboard
   (B) Corban
   (C) Tradition of the elders
   (D) Hypocrite

8. What did Jesus' association with the Syropheonician woman demonstrate? ..... (8) ______
   (A) Jesus' willingness to work on Sunday
   (B) the sacredness of the sabbath
   (C) Jesus' position regarding ceremonial "clean" and "unclean"
   (D) Jesus' position regarding the paying of taxes

9. Which of the following were referred to as "children" and "dogs" respectively in Matthew 7? .... (9) ______
   (A) Jews and Gentiles
   (B) workers and non-workers
   (C) "saved" and "backsliders"
   (D) raptured and dead

10. What does the term "apostellein" mean? .... (10) ______
    (A) to show strong outrage
    (B) to be a student of the Old Testament
    (C) to be a representative
    (D) to show love for synagogue ritual

11. What is the privotal point in Mark's Gospel? .... (11) ______
    (A) death of Jesus
    (B) Peter's confession
    (C) beginning of Paul's ministry
    (D) sermon on the mount

12. What does the Hebrew term "Messiah" mean? .... (12) ______
    (A) concept of hell
    (B) beginning of end times
    (C) annointed one
    (D) sermon on the mount

13. What followed both the transfiguration and the baptism of Christ? .... (13) ______
    (A) conflict with satan
    (B) healing of the blessed disciple
    (C) acceptance of Jesus by the masses
    (D) a trip to purge the temple

14. Which of the following was a Rabbi who described divorce as "something shameful"? (14) ______
    (A) Shammai
    (B) Hillel
    (C) Moses
    (D) King David

15. What is significant about Jesus' allowing blind Bartimaeus to use the phrase "Son of David"? .... (15) ______
    (A) It demonstrated that Jesus was about to be baptised.
    (B) It demonstrated the revealing of the messianic secret.
    (C) It showed favouritism for Jesus' disciples.
    (D) It signified the beginning of Jesus' ministry.

16. What does "Hosanna" mean? .... (16) ______
    (A) Save now.
    (B) Secure the colt.
    (C) The end is near.
    (D) the unfolding of truth

17. Suffering and triumph are the basic themes of which of the following scriptures? (17) ______
    (A) Mark 1:5-2:6
    (B) Mark 14:1-16:20
    (C) Mark 8:5-10:14
    (D) Mark 11:6-12:14

18. Which of the following best describes Christ as he examined the temple in preparation for the prophetic act of cleansing? .... (18) ______
    (A) tourist
    (B) mistaken prophet
    (C) sovereign lord
    (D) suffering servent

19. What is the theme of the Olivet Discourse?................................. (19) ______
    (A) Be wakeful.
    (B) Love your neighbour.
    (C) Promote unity.
    (D) Provide for the needy.

20. Which of the following contains the "tradition of the elders"? .... (20) ______
    (A) New Testament
    (B) Mishnah
    (C) Old Testament
    (D) Koran

SECTION B

Write the correct response for each of the following in the blank(s) provided. Some items will require more than one response for one mark each. Total value: 20%.

21. Which gospel is **NOT** one of the synoptic gospels? .... (21) ____________________

22. In what city was the trial of Jesus held? .... (22) ____________________

23. What is the theme of the Gospel of Matthew? .... (23) ____________________

24. What term is used to refer to "a gift devoted to God"? .... (24) ____________________

25. List **THREE** of the divisions of the New Testament: (3 marks)(25) (a) ____________________

(b) ____________________

(c) ____________________

26. Which gospel is generally thought to have been written first? ... (26) ____________________

27. Matthew contains many quotations and allusions from what major section of the Bible? .... (27) ____________________

28. Which gospel traces the geneology of Jesus back to Adam? .... (28) ____________________

29. Which of the disciples betrayed Jesus? .... (29) ____________________

30. When comparing the Gospels of Mark and John, which is more theologically complex? .... (30) ____________________

31. Which New Testament book traces the historical development of the early church? .... (31) ____________________

32. Which disciple made the confession, "You are the Christ"? .... (32) ____________________

33. Which three disciples were with Jesus at the time of the transfiguration? (3 marks) ....(33) (a) ____________________

(b) ____________________

(c) ____________________

34. Who "prepared a way" for Jesus? .... (34) ____________________

35. What is the name of the "prince of demons"? .... (35) ____________________

36. Who ordered the death of John the Baptist? .... (36) ____________________

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

GOSPELS 3105

NOVEMBER 1989

PART II

Value: 60 marks — Time: 1 hour, 15 minutes

GENERAL INSTRUCTIONS

1. Part II consists of essay items only arranged in four sections with requirements as follows:

   SECTION A — Do any ONE complete item — 14%
   SECTION B — Do ONE complete item — 15%
   SECTION C — Do ONE complete item — 15%
   SECTION D — Do ONE complete item — 16%

2. All answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the Chief Supervisor prior to the first session, and have been posted for further reference near the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

— Materials required
— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

Value

SECTION A

Do any **ONE** complete item in this section. Total value: 14%.

10 1. (a) List **five** differences between the geography of Palestine at the time of Christ and the geography of present day Newfoundland. You should focus on the land and population, physical characteristics and political divisions.

4 (b) Describe **four** characteristics of the typical dress of first-century Jewish men and women.

4 2. (a) Discuss any **two** New Testament themes demonstrating your understanding of them.

8 (b) List at least **four** differences between each of the following pairs of Gospels:

(i) Matthew and Mark
(ii) Luke and John

2 (c) Explain the meaning of the term "synophic".

SECTION B

Do the **ONE** complete item in this section. Total value: 15%.

15 3. Show at least **five** differences between each of the following pairs of miracles. Note people involved, basic lesson of the miracle(s), the sequence of events, and so forth.

(a) The Feeding of the Five Thousand, and The Faith of the Syropheonician Woman.

(b) Healing the Blind Man at Bethsaida, and The Stilling of the Storm.

(c) Healing the Boy with an Evil Spirit, and The Raising of Jairus' Daughter.

SECTION C

Do the **ONE** complete item in this section. Total value: 15%.

15 4. Choose **three** parables that you studied this year, and do **all** of the following for each parable:

(1) Discuss the events which took place in the parable.
(2) Explain the main idea of the parable.
(3) State to whom Christ was presenting the parable.

SECTION D

Do the **ONE** complete item in this section. Total value: 16%

16 5. Choose **four** quotations of Christ, and do **all** of the following for each quotation:

(1) State the quotation.

(2) State to whom Jesus was speaking.

(3) Describe or explain where Christ was when he spoke the quotation.

(4) Explain the main idea of the quotation.

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

THE NEW TESTAMENT 3109

NOVEMBER 1989

Value: 100 marks

Time: 2 hours

GENERAL INSTRUCTIONS

1. The examination consists of essay items only arranged in four sections with requirements as follows:

SECTION A — Do any ONE item — 20%
SECTION B — Do any TWO items — 30%
SECTION C — Do any TWO items — 30%
SECTION D — Do any ONE item — 20%

2. Answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the Chief Supervisor prior to the first session, and have been posted for further reference near the entrance to the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

- Materials required
- Materials not permitted
- Use of handheld calculator
- Use of pen or pencil
- Communication and movement during the examination
- Punctuality
- Leaving the room
- Use of answer booklets
- Completion of required information
- Use of unauthorized means, and penalties

Value

SECTION A

Do any **ONE** complete item from this section. Total value: 20%.

12 1. (a) Some of the popular Jewish religious groups during the time of Jesus include the Pharisees, Scribes, Sadducees, and Essenes. Describe any **two** groups.

8 (b) Explain what the Torah is and comment on its importance to the Jewish people.

10 2. (a) The early Christians vividly remembered what Jesus had said and done, and messages were passed on by word of mouth. As time passed, this oral tradition was not enough and the New Testament was written to meet the needs of a growing church. What were these needs?

10 (b) Paul's letters were the first to appear in the New Testament. Tell why he wrote these letters, and give examples of the questions he dealt with.

10 3. (a) Why, if he was sinless, was Jesus baptized by John?

10 (b) Explain why Jesus was tempted by the devil shortly after the baptism.

SECTION B

Do any **TWO** complete items from this section. Total value: 30%.

8 4. (a) Why were the disciples confused when Jesus mentioned his suffering at Caesarea Philippi?

7 (b) What purpose did the Transfiguration serve for Jesus?

7 5. (a) When Jesus began preaching in the Galilean synagogues, many noticed that he was an "unsusual" preacher. Comment on this view.

8 (b) Early in his ministry, Jesus was invited to preach at a regular Sabbath service in Nazareth where he read from Isaiah. What was his message to the congregation, and how was this message received?

8 6. (a) The improtance of the Resurrection cannot be overemphasized in terms of the growth of the Christian church. Support this statement.

7 (b) Write an account of the appearance of the risen Lord to the two disciples on the road to Emmaus.

SECTION C

Do any **TWO** complete items from this section. Total value: 30%.

5 7. (a) What is a martyr?

10 (b) Stephen, who is described as being the first Christian Martyr, conflicted with Jewish authorites because he was very liberal in his view of how Christianity should grow and develop. In his defence speech to the Sanhedrin, he made serious accusations against the Jewish religion. What were they?

15 8. Describe who the Samaritans were, and tell why Philip's mission to them was very significant to the development of the early church.

10 9. (a) Write an account of Paul's life before his conversion using the following as headings: "family background religion", "educational background".

5 (b) As a first-century traveller, Paul had several advantages. List them.

Value

SECTION D

Do any **ONE** complete item from this section. Total value: 20%.

10 10. (a) Describe Paul's encounter with sorcery at Philippi, and indicate how this led to the imprisonment of Paul and his company.

10 (b) Another encounter with magic and superstition took place at Ephesus. Describe this incident.

20 11. Describe Paul's fascinating seafaring journey to Rome; emphasize Paul's role as leader.

10 12. (a) The actual persecution of Christians didn't begin until the reign of the emperor Nero. Explain why these persecutions occurred.

10 (b) Both the **Gnostics** and the **Docetists** were groups which displayed false teachings within the church. Describe the ideas of these two groups.

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

CHEMISTRY 3202

NOVEMBER 1989

PART I

Value: 30 marks Time: 45 minutes

Examination Number ________________

GENERAL INSTRUCTIONS

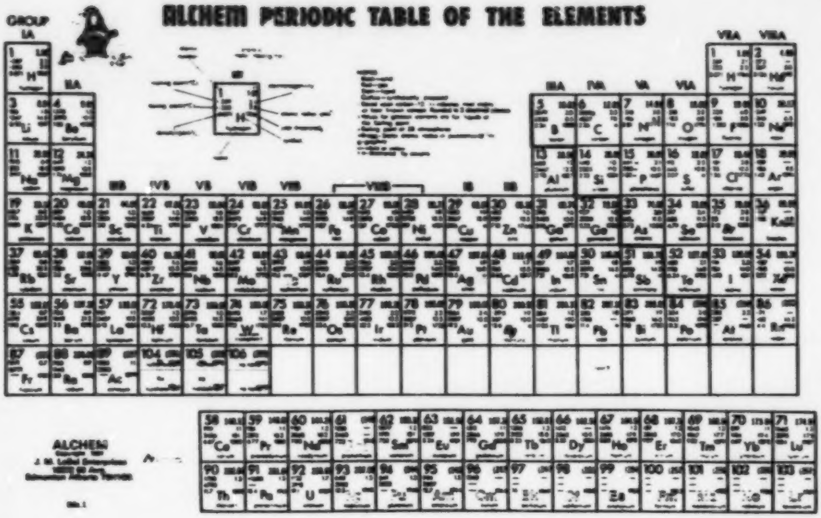
1. Part I consists of 30 multiple-choice objective items, and candidates are required to do **ALL** items.
2. Copies of the Periodic Table, a Table of Ions, and the ALCHEM Data Sheet are provided for your reference.
3. All answers are to be written in this paper
4. Be sure to write your Examination Number in the space provided above.

REGULATIONS FOR CANDIDATES

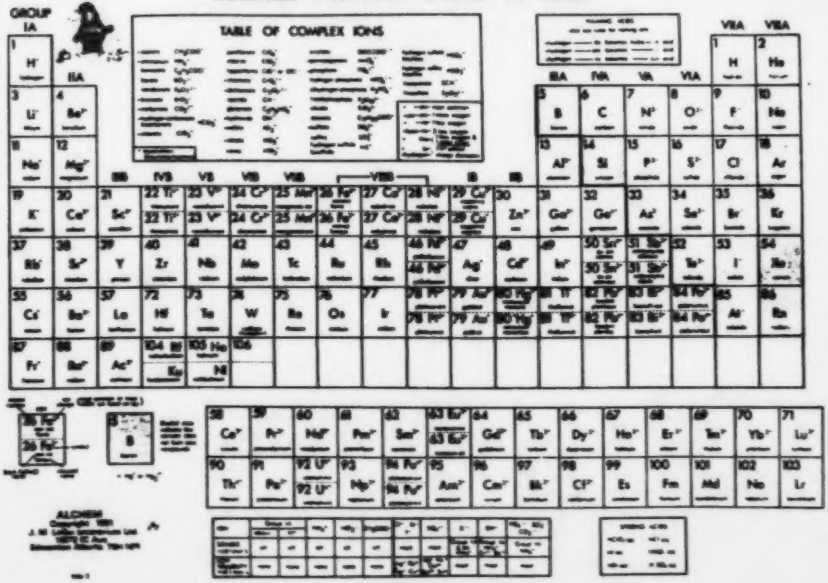
Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the Chief Supervisor prior to the first session, and have been posted for further reference near the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

- Materials required
- Materials not permitted
- Use of handheld calculator
- Use of pen or pencil
- Communication and movement during the examination
- Punctuality
- Leaving the room
- Use of answer booklets
- Completion of required information
- Use of unauthorized means, and penalties

ALCHEM PERIODIC TABLE OF THE ELEMENTS


GROUP IA
IIA
IIIB
IVB
VB
VIB
VIIB
VIII
IB
IIB
IIIA
IVA
VA
VIA
VIIA
VIIIA
ALCHEM

ALCHEM PERIODIC TABLE OF IONS


GROUP IA
TABLE OF COMPLEX IONS
IIA
IIIB
IVB
VB
VIB
VIIB
VIII
IB
IIB
IIIA
IVA
VA
VIA
VIIA
VIIIA
ALCHEM

1. Radioactive Isotopes

Isotope	Half-Life*	Decay Mode**	Isotope	Half-Life*	Decay Mode**
$^{3}_{1}H$	12.3 a	β^-	$^{216}_{84}Po$	0.160 s	α
$^{14}_{6}C$	5.73×10^3 a	β^-	$^{218}_{84}Po$	3.05 min	α, β^-
$^{24}_{11}Na$	15.0 h	β^-, γ	$^{220}_{86}Rn$	51.5 s	α
$^{32}_{15}P$	14.3 d	β^-	$^{222}_{86}Rn$	3.82 d	α
$^{35}_{16}S$	1.40 s	β^+	$^{224}_{88}Ra$	3.64 d	α
$^{36}_{17}Cl$	3.00×10^5 a	β^-	$^{226}_{88}Ra$	1.62×10^3 a	α, γ
$^{40}_{19}K$	1.30×10^9 a	β^-, γ	$^{228}_{88}Ra$	6.70 a	β^-
$^{58}_{27}Co$	1.65×10^2 d	β^-	$^{228}_{89}Ac$	6.13 h	β^-
$^{60}_{27}Co$	5.27 a	β^-, γ	$^{228}_{90}Th$	1.91 a	α
$^{90}_{38}Sr$	28 a	β^-	$^{235}_{92}U$	7.13×10^8 a	α, γ
$^{131}_{53}I$	8.05 d	β^-, γ	$^{239}_{94}Pu$	2.44×10^4 a	α, γ
$^{212}_{82}Pb$	10.6 h	β^-	$^{242}_{95}Am$	16.0 h	γ, β^-
$^{212}_{83}Bi$	60.6 min	α, β^-			
$^{212}_{84}Po$	3.00×10^{-7} s	α			

* s = seconds
min = minutes
h = hours
d = days
a = years

** α = alpha particle
β^- = beta particle
β^+ = positron
γ = gamma photon
$\alpha\beta^-$ = alpha & beta

2. Miscellaneous

$\Delta H_{H_2O(s) \rightarrow H_2O(\ell)}$ = 6.03 kJ/mol
$\Delta H_{H_2O(\ell) \rightarrow H_2O(g)}$ = 40.8 kJ/mol
$c_{H_2O(s)}$ = 2.01 J/(g·°C)
$c_{H_2O(\ell)}$ = 4.19 J/(g·°C)
$c_{H_2O(g)}$ = 2.01 J/(g·°C)

c = 3.00×10^8 m/s
$e = q_e$ = 1.60×10^{-19} C
N = 6.02×10^{23}/mol
F = 9.65×10^4 C/mol$_e$
1 C = 6.24×10^{18} e
*1 kW·h = 3.6 MJ
*1 atm = 101.325 kPa
*1 A = 1 C/s
*1 V = 1 J/C = 96.5 kJ/mol$_e$
*1 W = 1 J/s
*1 t = 1000 kg = 1 Mg

* exact values

ALCHEM Chemistry
data sheet
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3. Atomic Molar Masses of Isotopes

$^{0}_{-1}e$ = 0.000 548 6
$^{1}_{1}p$ = 1.007 276 5
$^{1}_{0}n$ = 1.008 665 0
$^{1}_{1}H$ = 1.007 825
$^{2}_{1}H$ = 2.014 0
$^{3}_{1}H$ = 3.016 05
$^{3}_{2}He$ = 3.016 03

$^{4}_{2}\alpha$ = 4.001 50
$^{4}_{2}He$ = 4.002 60
$^{5}_{2}He$ = 5.012 3
$^{5}_{3}Li$ = 5.012 5
$^{12}_{6}C$ = 12 (exactly)
$^{14}_{7}N$ = 14.003 07
$^{15}_{7}N$ = 15.000 11

$^{16}_{8}O$ = 15.994 91
$^{35}_{17}Cl$ = 34.968 85
$^{56}_{26}Fe$ = 55.934 9
$^{206}_{82}Pb$ = 205.974 5
$^{210}_{84}Po$ = 209.982 9
$^{235}_{92}U$ = 235.043 9
$^{238}_{92}U$ = 238.050 8

4. Relative Strengths of Oxidizing and Reducing Agents

SOA

Decreasing Strength of Oxidizing Agents

Decreasing Strength of Reducing Agents

Half-reaction	**E° (V)
$^{***}F_{2(aq)} + 2e^- \rightleftharpoons 2F^-_{(aq)}$	+2.87
$MnO^-_{4(aq)} + 8H^+_{(aq)} + 5e^- \rightleftharpoons 4H_2O_{(\ell)} + Mn^{2+}_{(aq)}$	+1.49
$Au^{3+}_{(aq)} + 3e^- \rightleftharpoons Au_{(s)}$	+1.42
$^{***}Cl_{2(aq)} + 2e^- \rightleftharpoons 2Cl^-_{(aq)}$	+1.36
$Cr_2O^{2-}_{7(aq)} + 14H^+_{(aq)} + 6e^- \rightleftharpoons 7H_2O_{(\ell)} + 2Cr^{3+}_{(aq)}$	+1.33
$N_2H^+_{5(aq)} + 3H^+_{(aq)} + 2e^- \rightleftharpoons 2NH^+_{4(aq)}$	+1.27
$O_{2(g)} + 4H^+_{(aq)} + 4e^- \rightleftharpoons 2H_2O_{(\ell)}$	+1.23
$2IO^-_{3(aq)} + 12H^+_{(aq)} + 10e^- \rightleftharpoons 6H_2O_{(\ell)} + I_{2(aq)}$	+1.19
$Br_{2(aq)} + 2e^- \rightleftharpoons 2Br^-_{(aq)}$	+1.09
$Hg^{2+}_{(aq)} + 2e^- \rightleftharpoons Hg_{(\ell)}$	+0.85
$2NO^-_{3(aq)} + 4H^+_{(aq)} + 2e^- \rightleftharpoons 2H_2O_{(\ell)} + N_2O^*_{4(g)}$	+0.81
$Ag^+_{(aq)} + e^- \rightleftharpoons Ag_{(s)}$	+0.80
$Fe^{3+}_{(aq)} + e^- \rightleftharpoons Fe^{2+}_{(aq)}$	+0.77
$O_{2(g)} + 2H^+_{(aq)} + 2e^- \rightleftharpoons H_2O_{2(\ell)}$	+0.68
$I_{2(aq)} + 2e^- \rightleftharpoons 2I^-_{(aq)}$	+0.54
$O_{2(g)} + 2H_2O_{(\ell)} + 4e^- \rightleftharpoons 4OH^-_{(aq)}$	+0.40
$Cu^{2+}_{(aq)} + 2e^- \rightleftharpoons Cu_{(s)}$	+0.34
$Sn^{4+}_{(aq)} + 2e^- \rightleftharpoons Sn^{2+}_{(aq)}$	+0.15
$2H^+_{(aq)} + 2e^- \rightleftharpoons H_{2(g)}$	0.00
$Pb^{2+}_{(aq)} + 2e^- \rightleftharpoons Pb_{(s)}$	−0.13
$Sn^{2+}_{(aq)} + 2e^- \rightleftharpoons Sn_{(s)}$	−0.14
$Ni^{2+}_{(aq)} + 2e^- \rightleftharpoons Ni_{(s)}$	−0.23
$Co^{2+}_{(aq)} + 2e^- \rightleftharpoons Co_{(s)}$	−0.28
$Cd^{2+}_{(aq)} + 2e^- \rightleftharpoons Cd_{(s)}$	−0.40
$Fe^{2+}_{(aq)} + 2e^- \rightleftharpoons Fe_{(s)}$	−0.41
$Cr^{3+}_{(aq)} + 3e^- \rightleftharpoons Cr_{(s)}$	−0.74
$Zn^{2+}_{(aq)} + 2e^- \rightleftharpoons Zn_{(s)}$	−0.76
$2H_2O_{(\ell)} + 2e^- \rightleftharpoons 2OH^-_{(aq)} + H_{2(g)}$	−0.83
$2NO^-_{3(aq)} + 2H_2O_{(\ell)} + 2e^- \rightleftharpoons 4OH^-_{(aq)} + N_2O^*_{4(g)}$	−0.85
$SO^{2-}_{4(aq)} + H_2O_{(\ell)} + 2e^- \rightleftharpoons SO^{2-}_{3(aq)} + 2OH^-_{(aq)}$	−0.93
$Al^{3+}_{(aq)} + 3e^- \rightleftharpoons Al_{(s)}$	−1.66
$Mg^{2+}_{(aq)} + 2e^- \rightleftharpoons Mg_{(s)}$	−2.37
$Na^+_{(aq)} + e^- \rightleftharpoons Na_{(s)}$	−2.71
$Ca^{2+}_{(aq)} + 2e^- \rightleftharpoons Ca_{(s)}$	−2.76
$K^+_{(aq)} + e^- \rightleftharpoons K_{(s)}$	−2.92
$Li^+_{(aq)} + e^- \rightleftharpoons Li_{(s)}$	−3.04

SRA

* Colorless $N_2O_{4(g)}$ decomposes into brown $NO_{2(g)}$

** Reduction potentials for 1.0 mol/L aqueous solutions at 25°C and 101 kPa

*** Shown as aqueous for convenience; actually measured in gaseous form

5. Molar Heats of Formation*

t = 25°C P = 101 kPa

Name	Formula	H_f (kJ/mol)
acetic acid	$CH_3COOH_{(\ell)}$	−488.6
acetone	$CH_3COCH_{3(\ell)}$	−115.6
acetylene	$C_2H_{2(g)}$	+226.9
aluminum oxide	$Al_2O_{3(s)}$	−1675.8
ammonia	$NH_{3(g)}$	−46.1
benzene	$C_6H_{6(\ell)}$	+82.8
butane	$C_4H_{10(\ell)}$	−124.8
calcium carbide	$CaC_{2(s)}$	−62.8
calcium carbonate	$CaCO_{3(s)}$	−1206.9
calcium chloride	$CaCl_{2(s)}$	−795.8
calcium oxide	$CaO_{(s)}$	−635.5
carbon dioxide	$CO_{2(g)}$	−393.5
carbon disulfide	$CS_{2(\ell)}$	+117.2
carbon monoxide	$CO_{(g)}$	−110.5
copper(II) oxide	$CuO_{(s)}$	−168.6
copper(I) oxide	$Cu_2O_{(s)}$	−157.3
ethane	$C_2H_{6(g)}$	−84.7
ethanol	$C_2H_5OH_{(\ell)}$	−277.6
ethene (ethylene)	$C_2H_{4(g)}$	+52.3
ethylene dichloride	$C_2H_4Cl_{2(\ell)}$	−166.3
ethylene glycol	$C_2H_4(OH)_{2(\ell)}$	−455.0
ethylene oxide	$C_2H_4O_{(g)}$	−51.1
glucose	$C_6H_{12}O_{6(s)}$	[illegible]
hydrogen chloride	$HCl_{(g)}$	−92.3
hydrogen iodide ($I_{2(s)}$)	$HI_{(g)}$	+26.0
hydrogen iodide ($I_{2(g)}$)	$HI_{(g)}$	−5.0
hydrogen peroxide	$H_2O_{2(\ell)}$	−188.0
hydrogen sulfide	$H_2S_{(g)}$	−20.5
iron(III) oxide	$Fe_2O_{3(s)}$	−822.2
methane	$CH_{4(g)}$	−74.9
methanol	$CH_3OH_{(\ell)}$	−238.6
nitrogen dioxide	$NO_{2(g)}$	+33.2
nitrogen monoxide	$NO_{(g)}$	+90.4
nitromethane	$CH_3NO_{2(\ell)}$	−89.2
octane	$C_8H_{18(\ell)}$	−208.7
propane	$C_3H_{8(g)}$	−103.8
sucrose	$C_{12}H_{22}O_{11(s)}$	−1742.0
sulfuric acid	$H_2SO_{4(\ell)}$	−813.2
sulfur dioxide	$SO_{2(g)}$	−296.8
2,2,4-trimethylpentane	$C_8H_{18(\ell)}$	−224.0
sulfur trioxide	$SO_{3(g)}$	−395.7
vinyl chloride	$C_2H_3Cl_{(g)}$	+33.9
water (liquid)	$H_2O_{(\ell)}$	−285.8
water (vapor)	$H_2O_{(g)}$	−241.8

* *Molar heats of formation for elements in natural occurring form are assumed to be zero*

Refer to the CRC Handbook of Chemistry and Physics for further data

Side 1

6. Two Place Logs

No.	Log	No.	Log	No.	Log	No.	Log	No.	Log
1.0	.00	3.0	.48	5.0	.70	7.0	.85	9.0	.95
1.1	.04	3.1	.49	5.1	.71	7.1	.85	9.1	.96
1.2	.08	3.2	.51	5.2	.72	7.2	.86	9.2	.96
1.3	.11	3.3	.52	5.3	.72	7.3	.86	9.3	.97
1.4	.15	3.4	.53	5.4	.73	7.4	.87	9.4	.97
1.5	.18	3.5	.54	5.5	.74	7.5	.88	9.5	.98
1.6	.20	3.6	.56	5.6	.75	7.6	.88	9.6	.98
1.7	.23	3.7	.57	5.7	.76	7.7	.89	9.7	.99
1.8	.26	3.8	.58	5.8	.76	7.8	.89	9.8	.99
1.9	.28	3.9	.59	5.9	.77	7.9	.90	9.9	1.00
2.0	.30	4.0	.60	6.0	.78	8.0	.90	10.0	1.00
2.1	.32	4.1	.61	6.1	.79	8.1	.91	10.1	1.00
2.2	.34	4.2	.62	6.2	.79	8.2	.91	10.2	1.01
2.3	.36	4.3	.63	6.3	.80	8.3	.92	10.3	1.01
2.4	.38	4.4	.64	6.4	.81	8.4	.92	10.4	1.02
2.5	.40	4.5	.65	6.5	.81	8.5	.93	10.5	1.02
2.6	.41	4.6	.66	6.6	.82	8.6	.93	10.6	1.03
2.7	.43	4.7	.67	6.7	.83	8.7	.94	10.7	1.03
2.8	.45	4.8	.68	6.8	.83	8.8	.94	10.8	1.03
2.9	.46	4.9	.69	6.9	.84	8.9	.95	10.9	1.04

7. Solubilities

$t = 25°C$ $P = 101$ kPa

$HCl_{(aq)}$	*38%	12.4 mol/L
$H_3PO_{4(aq)}$	85%	14.7 mol/L
$HNO_{3(aq)}$	69%	15.4 mol/L
$CH_3COOH_{(aq)}$	99.5%	17.4 mol/L
$H_2SO_{4(aq)}$	96%	17.8 mol/L
$NH_{3(aq)}$	28%	14.8 mol/L
$NaOH_{(aq)}$	50%	19.1 mol/L
$AgCl_{(aq)}$		4.1×10^{-5} mol/L
$CaCO_{3(aq)}$		6.9×10^{-5} mol/L
$Ca(OH)_{2(aq)}$		6.9×10^{-3} mol/L
$C_{12}H_{22}O_{11(aq)}$		3.0 mol/L
$NaCl_{(aq)}$		5.3 mol/L

* percent by mass

ALCHEM Chemistry

data sheet

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8. Acid-Base Indicators at 25°C

Indicator	pH Range	$HIn_{(aq)}$	$In^-_{(aq)}$
methyl orange	3.1 – 4.4	red	yellow
methyl red	4.2 – 6.3	red	yellow
litmus	6.5 – 7.5	red	blue
bromthymol blue	6.0 – 7.6	yellow	blue
phenolphthalein	8.0 – 9.6	colorless	red
alizarin yellow	10.1 – 12.0	colorless	violet

9. Relative Strengths of Acids and Bases

	Name of Acid Species	Percent Reaction of 0.10 mol/L Solution	Reaction of 0.10 mol/L Aqueous Acid Species with $H_2O_{(l)}$	Name of Base Species	
1 Strong Acids	perchloric acid	100	$HClO_{4(aq)} + H_2O_{(l)} \xrightarrow{6} H_3O^+_{(aq)} + ClO^-_{4(aq)}$	perchlorate ion	2
	hydroiodic acid	100	$HI_{(aq)} + H_2O_{(l)} \rightarrow H_3O^+_{(aq)} + I^-_{(aq)}$	iodide ion	
	hydrobromic acid	100	$HBr_{(aq)} + H_2O_{(l)} \rightarrow H_3O^+_{(aq)} + Br^-_{(aq)}$	bromide ion	
	hydrochloric acid	100	$HCl_{(aq)} + H_2O_{(l)} \rightarrow H_3O^+_{(aq)} + Cl^-_{(aq)}$	chloride ion	
	nitric acid	100	$HNO_{3(aq)} + H_2O_{(l)} \rightarrow H_3O^+_{(aq)} + NO^-_{3(aq)}$	nitrate ion	
	sulfuric acid	100	$H_2SO_{4(aq)} + H_2O_{(l)} \rightarrow H_3O^+_{(aq)} + HSO^-_{4(aq)}$	hydrogen sulfate ion	
3	hydronium ion	100	$H_3O^+_{(aq)} + H_2O_{(l)} \rightarrow H_3O^+_{(aq)} + H_2O_{(l)}$	water	Decreasing Strength of Bases
Decreasing Strength of Acids	oxalic acid	53	$HOOCCOOH_{(aq)} + H_2O_{(l)} \rightleftharpoons H_3O^+_{(aq)} + HOOCCOO^-_{(aq)}$	hydrogen oxalate ion	
	sulfurous acid ($SO_{2(aq)} + H_2O_{(l)}$)	32	$H_2SO_{3(aq)} + H_2O_{(l)} \rightleftharpoons H_3O^+_{(aq)} + HSO^-_{3(aq)}$	hydrogen sulfite ion	
	hydrogen sulfate ion	29	$HSO^-_{4(aq)} + H_2O_{(l)} \rightleftharpoons H_3O^+_{(aq)} + SO^{2-}_{4(aq)}$	sulfate ion	
	methyl orange[7]	–	$HMo_{(aq)} + H_2O_{(l)} \rightleftharpoons H_3O^+_{(aq)} + Mo^-_{(aq)}$	methyl orange ion	
	phosphoric acid	24	$H_3PO_{4(aq)} + H_2O_{(l)} \rightleftharpoons H_3O^+_{(aq)} + H_2PO^-_{4(aq)}$	dihydrogen phosphate ion	
	hydrofluoric acid	8.2	$HF_{(aq)} + H_2O_{(l)} \rightleftharpoons H_3O^+_{(aq)} + F^-_{(aq)}$	fluoride ion	
	nitrous acid	7.3	$HNO_{2(aq)} + H_2O_{(l)} \rightleftharpoons H_3O^+_{(aq)} + NO^-_{2(aq)}$	nitrite ion	5
	bromthymol blue[7]	–	$HBb_{(aq)} + H_2O_{(l)} \rightleftharpoons H_3O^+_{(aq)} + Bb^-_{(aq)}$	bromthymol blue ion	
	benzoic acid	2.6	$C_6H_5COOH_{(aq)} + H_2O_{(l)} \rightleftharpoons H_3O^+_{(aq)} + C_6H_5COO^-_{(aq)}$	benzoate ion	
	hydrogen oxalate ion	2.3	$HOOCCOO^-_{(aq)} + H_2O_{(l)} \rightleftharpoons H_3O^+_{(aq)} + OOCCOO^{2-}_{(aq)}$	oxalate ion	
	ethanoic (acetic) acid	1.3	$CH_3COOH_{(aq)} + H_2O_{(l)} \rightleftharpoons H_3O^+_{(aq)} + CH_3COO^-_{(aq)}$	acetate ion	
	carbonic acid ($CO_{2(aq)} + H_2O_{(l)}$)	0.21	$H_2CO_{3(aq)} + H_2O_{(l)} \overset{6}{\rightleftharpoons} H_3O^+_{(aq)} + HCO^-_{3(aq)}$	hydrogen carbonate ion	
	phenolphthalein[7]	–	$HPh_{(aq)} + H_2O_{(l)} \leftarrow H_3O^+_{(aq)} + Ph^-_{(aq)}$	phenolphthalein ion	
	hydrogen sulfide	9.8×10^{-2}	$H_2S_{(aq)} + H_2O_{(l)} \leftarrow H_3O^+_{(aq)} + HS^-_{(aq)}$	hydrogen sulfide ion	
	dihydrogen phosphate ion	7.9×10^{-2}	$H_2PO^-_{4(aq)} + H_2O_{(l)} \leftarrow H_3O^+_{(aq)} + HPO^{2-}_{4(aq)}$	hydrogen phosphate ion	
5	hydrogen sulfite ion	4.4×10^{-2}	$HSO^-_{3(aq)} + H_2O_{(l)} \leftarrow H_3O^+_{(aq)} + SO^{2-}_{3(aq)}$	sulfite ion	
	ammonium ion	7.5×10^{-3}	$NH^+_{4(aq)} + H_2O_{(l)} \leftarrow H_3O^+_{(aq)} + NH_{3(aq)}$	ammonia	
	hydrogen carbonate ion	2.4×10^{-3}	$HCO^-_{3(aq)} + H_2O_{(l)} \leftarrow H_3O^+_{(aq)} + CO^{2-}_{3(aq)}$	carbonate ion	Strong Bases
	hydrogen phosphate ion	4.7×10^{-4}	$HPO^{2-}_{4(aq)} + H_2O_{(l)} \leftarrow H_3O^+_{(aq)} + PO^{3-}_{4(aq)}$	phosphate ion	
	hydrogen sulfide ion	3.3×10^{-6}	$HS^-_{(aq)} + H_2O_{(l)} \leftarrow H_3O^+_{(aq)} + S^{2-}_{(aq)}$	sulfide ion	
	water (55.5 mol/L)	1.8×10^{-7}	$H_2O_{(l)} + H_2O_{(l)} \leftarrow H_3O^+_{(aq)} + OH^-_{(aq)}$	hydroxide ion	
	hydroxide ion	0	$OH^-_{(aq)} + H_2O_{(l)} \leftarrow H_3O^+_{(aq)} + O^{2-}_{(aq)}$	oxide ion	4

Notes:

1. All strong acids are completely reacted and therefore written as $H_3O^+_{(aq)}$ plus the anion of the acid.
2. All negative ions above water on the right side of the equation have essentially no ability to attract protons.
3. The hydronium ion is only listed so that H_2O may appear as a base on the right side of the equation.
4. $O^{2-}_{(aq)}$ does not exist and is written as $OH^-_{(aq)}$.
5. Quantitative acid-base reactions are those involving the reaction of $H_3O^+_{(aq)}$ with any base below the nitrite ion, and the reaction of $OH^-_{(aq)}$ with any acid above the hydrogen sulfate ion.
6. A single arrow is used for equilibriums which are greater than 99% in one direction. In this acid-base table the equilibrium arrows are for the reaction of the 0.10 mol/L aqueous acid with water.
7. Indicators are not used at 0.10 mol/L solutions. The indicators have been empirically placed on the table so approximate reaction predictions can be made.

10. Formulas

$$n_{e} = \frac{q}{F} = \frac{It}{9.65 \times 10^4}$$

$$E_{(\mathrm{kW \cdot h})} = \frac{VIt}{1000}$$

$$E_{(\mathrm{J})} = VIt$$

11. SI Units & Symbols

metre	m
gram	g
tonne	t
mole	mol
litre	L
second	s
ampere	A
volt	V
coulomb	C
joule	J
kilowatt hour	kW·h
pascal	Pa

12. SI Prefixes

Prefix	Symbol	Factor
exa	E	10^{18}
peta	P	10^{15}
tera	T	10^{12}
* giga	G	10^{9}
* mega	M	10^{6}
** kilo	k	10^{3}
hecto	h	10^{2}
deca	da	10^{1}
deci	d	10^{-1}
** centi	c	10^{-2}
** milli	m	10^{-3}
* micro	μ	10^{-6}
* nano	n	10^{-9}
* pico	p	10^{-12}
femto	f	10^{-15}
atto	a	10^{-18}

** most common
* next most common

Side 2

Do **ALL** items by writing the letter of the correct response for each in the blank at the right.

1. What is the compound that would be held together by ionic bonding? .... (1) ______
   (A) $SiCl_4$
   (B) $CaCl_2$
   (C) SCl_2
   (D) $BrCl$

2. What does intermolecular bonding forces among CO_2 molecules involve? ...... (2) ______
   (A) dipole-dipole
   (B) London dispersion forces
   (C) covalent bonding
   (D) network covalent bonding

3. Under which of the following conditions does hydrogen bonding occur? .... (3) ______
   (A) A high electronegative atom and hydrogen are present.
   (B) A metallic atom and hydrogen are present.
   (C) Hydrogen atoms are sharing electrons with either sulfur or nitrogen.
   (D) A fluorine atom is joined with either chlorine, nitrogen, or oxygen.

4. What is the compound with the highest boiling point? .... (4) ______
   (A) HF
   (B) H_2S
   (C) HBr
   (D) HI

5. Why is acetic acid, $CH_3COOH_{(aq)}$, more soluble in water than in acetylene, C_2H_2? (5) ______
   (A) Acetylene is attracted to water by dipole-dipole forces.
   (B) Acetylene has a lower molar mass than acetic acid.
   (C) Acetic acid has more electrons.
   (D) Acetic acid is polar whereas acetylene is not.

6. Which substance exhibits the weakest London dispersion forces? .... (6) ______
   (A) Ar
   (B) Ne
   (C) CCl_4
   (D) CO_2

7. Why are all chemical bonds formed? .... (7) ______
   (A) to fill the inner orbitals of atoms with electrons
   (B) to make available more bonding electrons
   (C) to cause a transfer of electrons
   (D) to produce a more stable electron distribution

8. What are substances said to be that dissolve each other in all proportions? ..... (8) ______
   (A) saturated
   (B) diluted
   (C) aqueous
   (D) miscible

9. 78.0 g of silver sulphate is dissolved in water to make 500 mL of solution. What is the molar concentration of the resulting solution? .... (9) ______
   (A) 0.0500 mol/L
   (B) 0.125 mol/L
   (C) 0.500 mol/L
   (D) 0.764 mol/L

10. A student was instructed to prepare 300 mL of a 0.800 mol/L solution of potassium dichromate. What should be dissolved to produce the solution? .... (10) ______
    (A) 155 g of solute in 300 mL of distilled water
    (B) 0.240 mol of solute in 300 mL of distilled water
    (C) 70.6 g of solute in 150 mL of distilled water with water then added to a volume of 300 mL
    (D) 70.6 g of solute in 300 mL of distilled water

11. 20.0 mL of 17.6 mol/L $HNO_{3(aq)}$ is diluted to 1.00 L. What is the concentration of the resulting solution? .... (11) ______
    (A) 3.52 mol/L
    (B) 1.76 mol/L
    (C) 0.352 mol/L
    (D) 0.880 mol/L

12. What is the dissociation equation for dissolving $Al_2(SO_4)_3$ in water? .... (12) ______

(A) $Al_2(SO_4)_{3(s)} \longrightarrow 3Al^{3+}_{(aq)} + 2SO_4^{2-}_{(aq)}$

(B) $Al_2(SO_4)_{3(s)} \longrightarrow Al^{3+}_{(aq)} + SO_4^{2-}_{(aq)}$

(C) $Al_2(SO_4)_{3(s)} \longrightarrow 2Al^{3+}_{(aq)} + 3SO_4^{2-}_{(aq)}$

(D) $Al_2(SO_4)_{3(s)} \longrightarrow 2Al^{2+}_{(aq)} + 3SO_4^{3-}_{(aq)}$

13. A 0.25 mol/L solution of SrI_2 is totally dissociated into Sr^{2+} ions and I^- ions. What is the molar concentration of the iodide ions? .... (13) ______
(A) 0.13 mol/L
(B) 0.25 mol/L
(C) 0.50 mol/L
(D) 0.75 mol/L

14. For which of the following would tetrachloroethane, C_2Cl_4, be a good solvent?. (14) ______
(A) CH_3OH
(B) C_7H_{16}
(C) K_2CO_3
(D) NH_3

15. What happens to the solubility of gases in liquids when a bottle of pop is opened causing rapid bubbling? .... (15) ______
(A) It increases with increasing temperature.
(B) It decreases with decreasing temperature.
(C) It increases with decreasing gas pressure.
(D) It decreases with decreasing gas pressure.

16. What would be the short term effect of decreasing the Fe^{2+} concentration in the following reaction? .... (16) ______

$$2Fe^{3+}_{(aq)} + Sn^{2+}_{(aq)} \rightleftharpoons 2Fe^{2+}_{(aq)} + Sn^{4+}_{(aq)}$$

(A) $[Sn^{4+}]$ goes down, $[Fe^{3+}]$ and $[Sn^{2+}]$ go down and the reaction favours the right.

(B) $[Sn^{4+}]$ goes up, $[Fe^{3+}]$ and $[Sn^{2+}]$ go down and the reaction favours the right.

(C) $[Sn^{4+}]$ goes down, $[Fe^{3+}]$ and $[Sn^{2+}]$ go up and the reaction favours the left.

(D) $[Sn^{4+}]$ goes up, $[Fe^{3+}]$ and $[Sn^{2+}]$ go down and the reaction favours the left.

17. Why is a match needed to light a candle? .... (17) ______
(A) to provide the heat of reaction
(B) to reduce the threshold energy
(C) to provide the activation energy
(D) to catalyze the reaction

18. When does increasing the concentration of a reactant NOT affect the rate of the reaction? .... (18) ______
(A) when the activation energy is large
(B) when the reaction is endothermic
(C) when the reaction is exothermic
(D) when the reactant is not in the rate determining step

19. Consider the chemical system, $A + B \rightleftharpoons C + D$, that has come to equilibrium. What can we determine from this? .... (19) ______
(A) A and B are being produced at the same rate that C and D are being produced.
(B) The reaction has ceased; no more chemical reaction is occurring.
(C) All of A and B have been used.
(D) The concentration of A and B is the same as that of C and D.

20. Which of the following are exactly equal for opposing reactions at chemical equilibrum? .... (20) ______
(A) masses of reactant(s) and product(s)
(B) volume of reactant(s) and product(s)
(C) pressure of reactant(s) and product(s)
(D) the rates of forward and reverse reactions

21. Given: $Na_2O_{(s)} + H_2O_{(l)} + 168\ J \longrightarrow 2\ NaOH_{(s)}$.

What is the ΔH of this reaction per mole of product? .... (21) ______
(A) +168 J
(B) +84 J
(C) −84 J
(D) −168 J

22. 20.0 kJ of heat energy is produced by reacting 0.250 mol of substance X. What is the molar heat reaction of X? .... (22) ______
(A) −0.250 kJ/mol
(B) −5.00 kJ/mol
(C) −20.0 kJ/mol
(D) −80.0 kJ/mol

23. The pH of fruit juice is 2.0. What is the $[H_3O^+_{(aq)}]$ of the juice? .... (23) ______
(A) 2.0×10^{-2} mol/L
(B) 2.0×10^{-12} mol/L
(C) 1.0×10^{-12} mol/L
(D) 1.0×10^{-2} mol/L

24. Why is boric acid ($H_3BO_{3(aq)}$) classified as a weak acid? .... (24) ______
(A) It does not neutralize bases.
(B) It dissociates only slightly in an aqueous solution.
(C) It does not react with zinc to produce hydrogen.
(D) It does react completely with water when forming an aqueous solution.

25. What is the correct term for referring to the maximum amount of solute that will dissolve under specified conditions to make a unit volume of solution? .... (25) ______
(A) solubility
(B) molarity
(C) dissociation
(D) solution

26. Which of the following substances **CANNOT** act as an acid or as a base? ..... (26) ______
(A) HSO_3^-
(B) $HOOCCOO^-$
(C) H_2O
(D) CH_3COO^-

27. Assuming complete dissociation, what is the pH of a 0.0010 mol/L hydrochloric acid solution? .... (27) ______
(A) 1.0
(B) 2.0
(C) 3.0
(D) 10.0

28. Which of the following solutions has a pH of 9? .... (28) ______

(A) acidic with $[H_3O^+_{(aq)}] = 10^{-9}$ mol/L

(B) basic with $[OH^-_{(aq)}] = 10^{-9}$ mol/L

(C) acidic with $[OH^-_{(aq)}] = 10^{-9}$ mol/L

(D) basic with $[H_3O^+_{(aq)}] = 10^{-9}$ mol/L

29. What is the main reason for doing acid base titrations? .... (29) ______
(A) to determine whether acid-base reactions will proceed spontaneously
(B) to find the heat released in an acid-base reaction
(C) to determine the concentration of an acid or base solution
(D) to determine the rate of an acid-base reaction

30. According to the Bronsted-Lowry definition, what is an acid? .... (30) ______
(A) any species that can donate a pair of electrons

(B) any species that can form H_3O^+

(C) any species that loses a proton in a chemical reaction

(D) any species that can form OH^-

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

CHEMISTRY 3202

NOVEMBER 1989

PART II

Value: 70 marks

Time: 2 hours, 15 minutes

GENERAL INSTRUCTIONS

1. Part II consists of essay items only, arranged in three sections with requirements as follows:

   SECTION A — Do ONE item — 10%
   SECTION B — Do FOUR items — 48%
   SECTION C — Do ONE item — 12%

2. Copies of the Periodic Table, a Table of Ions, and the ALCHEM Data Sheet are provided for your reference, and one sheet of graph paper is provided for use in item #1.

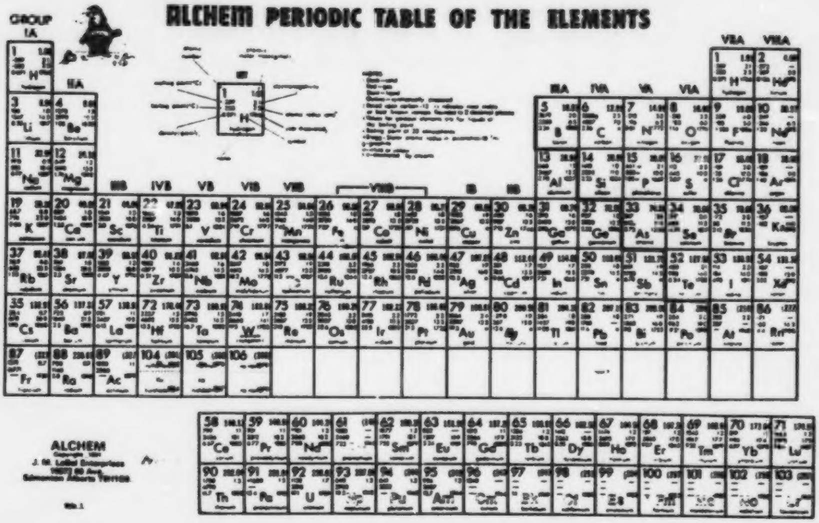
3. All answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

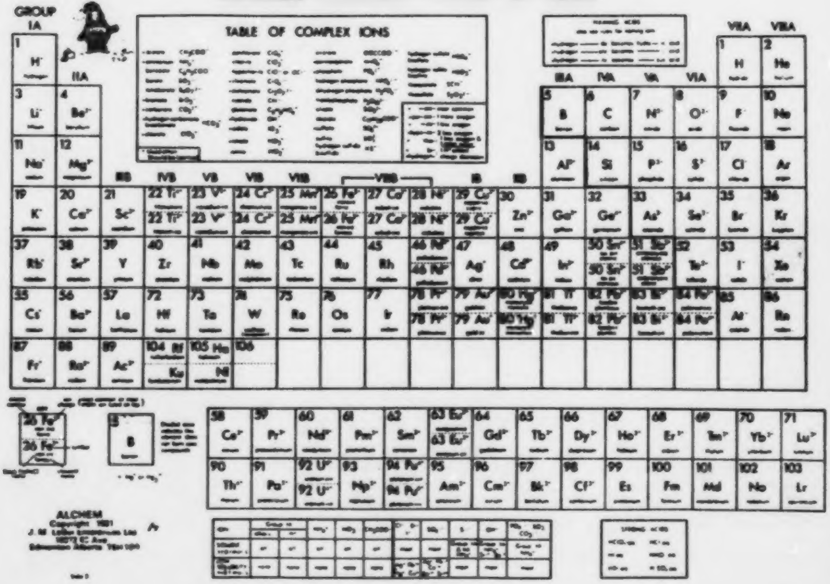
Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the Chief Supervisor prior to the first session, and have been posted for further reference near the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

- Materials required
- Materials not permitted
- Use of handheld calculator
- Use of pen or pencil
- Communication and movement during the examination
- Punctuality
- Leaving the room
- Use of answer booklets
- Completion of required information
- Use of unauthorized means, and penalties

ALCHEM PERIODIC TABLE OF THE ELEMENTS


GROUP IA
IIA
IIIB
IVB
VB
VIB
VIIB
VIIIB
IB
IIB
IIIA
IVA
VA
VIA
VIIA
VIIIA
ALCHEM

ALCHEM PERIODIC TABLE OF IONS


GROUP IA
TABLE OF COMPLEX IONS
IIA
IIIB
IVB
VB
VIB
VIIB
VIIIB
IB
IIB
IIIA
IVA
VA
VIA
VIIA
VIIIA
ALCHEM

1. Radioactive Isotopes

Isotope	Half-Life*	Decay Mode**	Isotope	Half-Life*	Decay Mode**
$^{3}_{1}H$	12.3 a	β^-	$^{216}_{84}Po$	0.160 s	α
$^{14}_{6}C$	5.73×10^3 a	β^-	$^{218}_{84}Po$	3.05 min	α, β^-
$^{24}_{11}Na$	15.0 h	β^-, γ	$^{220}_{86}Rn$	51.5 s	α
$^{32}_{15}P$	14.3 d	β^-	$^{222}_{86}Rn$	3.82 d	α
$^{35}_{16}S$	1.40 s	β^+	$^{224}_{88}Ra$	3.64 d	α
$^{36}_{17}Cl$	3.00×10^5 a	β^-	$^{226}_{88}Ra$	1.62×10^3 a	α, γ
$^{40}_{19}K$	1.30×10^9 a	β^-, γ	$^{228}_{88}Ra$	6.70 a	β^-
$^{58}_{27}Co$	1.65×10^2 d	β^-	$^{228}_{89}Ac$	6.13 h	β^-
$^{60}_{27}Co$	5.27 a	β^-, γ	$^{228}_{90}Th$	1.91 a	α
$^{90}_{38}Sr$	28 a	β^-	$^{235}_{92}U$	7.13×10^8 a	α, γ
$^{131}_{53}I$	8.05 d	β^-, γ	$^{239}_{94}Pu$	2.44×10^4 a	α, γ
$^{212}_{82}Pb$	10.6 h	β^-	$^{242}_{95}Am$	16.0 h	γ, β^-
$^{212}_{83}Bi$	60.6 min	α, β^-			
$^{212}_{84}Po$	3.00×10^{-7} s	α			

* s = seconds
min = minutes
h = hours
d = days
a = years

** α = alpha particle
β^- = beta particle
β^+ = positron
γ = gamma photon
α, β^- = alpha & beta

2. Miscellaneous

$\Delta H_{H_2O_{(s)} \rightarrow H_2O_{(\ell)}}$ = 6.03 kJ/mol

$\Delta H_{H_2O_{(\ell)} \rightarrow H_2O_{(g)}}$ = 40.8 kJ/mol

$c_{H_2O_{(s)}}$ = 2.01 J/(g·°C)

$c_{H_2O_{(\ell)}}$ = 4.19 J/(g·°C)

$c_{H_2O_{(g)}}$ = 2.01 J/(g·°C)

c = 3.00×10^8 m/s
e^- = q_e = 1.60×10^{-19} C
N = 6.02×10^{23}/mol
F = 9.65×10^4 C/mol$_e$
1 C = 6.24×10^{18} e^-
*1 kW·h = 3.6 MJ
*1 atm = 101.325 kPa
*1 A = 1 C/s
*1 V = 1 J/C = 96.5 kJ/mol$_e$
*1 W = 1 J/s
*1 t = 1000 kg = 1 Mg

* exact values

ALCHEM Chemistry data sheet

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3. Atomic Molar Masses of Isotopes

$^{0}_{-1}e$ = 0.000 548 6
$^{1}_{1}p$ = 1.007 276 5
$^{1}_{0}n$ = 1.008 665 0
$^{1}_{1}H$ = 1.007 825
$^{2}_{1}H$ = 2.014 0
$^{3}_{1}H$ = 3.016 05
$^{3}_{2}He$ = 3.016 03

$^{4}_{2}\alpha$ = 4.001 50
$^{4}_{2}He$ = 4.002 60
$^{5}_{2}He$ = 5.012 3
$^{5}_{3}Li$ = 5.012 5
$^{12}_{6}C$ = 12 (exactly)
$^{14}_{7}N$ = 14.003 07
$^{15}_{7}N$ = 15.000 11

$^{16}_{8}O$ = 15.994 91
$^{35}_{17}Cl$ = 34.968 85
$^{56}_{26}Fe$ = 55.934 9
$^{206}_{82}Pb$ = 205.974 5
$^{210}_{84}Po$ = 209.982 9
$^{235}_{92}U$ = 235.043 9
$^{238}_{92}U$ = 238.050 8

4. Relative Strengths of Oxidizing and Reducing Agents

**$E°$ (V)

SOA

$^{***}F_{2(aq)} + 2e^- \rightleftharpoons 2F^-_{(aq)}$ +2.87
$MnO^-_{4(aq)} + 8H^+_{(aq)} + 5e^- \rightleftharpoons 4H_2O_{(\ell)} + Mn^{2+}_{(aq)}$ +1.49
$Au^{3+}_{(aq)} + 3e^- \rightleftharpoons Au_{(s)}$ +1.42
$^{***}Cl_{2(aq)} + 2e^- \rightleftharpoons 2Cl^-_{(aq)}$ +1.36
$Cr_2O^{2-}_{7(aq)} + 14H^+_{(aq)} + 6e^- \rightleftharpoons 7H_2O_{(\ell)} + 2Cr^{3+}_{(aq)}$ +1.33
$N_2H^+_{5(aq)} + 3H^+_{(aq)} + 2e^- \rightleftharpoons 2NH^+_{4(aq)}$ +1.27
$O_{2(g)} + 4H^+_{(aq)} + 4e^- \rightleftharpoons 2H_2O_{(\ell)}$ +1.23
$2IO^-_{3(aq)} + 12H^+_{(aq)} + 10e^- \rightleftharpoons 6H_2O_{(\ell)} + I_{2(aq)}$ +1.19
$Br_{2(aq)} + 2e^- \rightleftharpoons 2Br^-_{(aq)}$ +1.09
$Hg^{2+}_{(aq)} + 2e^- \rightleftharpoons Hg_{(\ell)}$ +0.85
$2NO^-_{3(aq)} + 4H^+_{(aq)} + 2e^- \rightleftharpoons 2H_2O_{(\ell)} + N_2O^*_{4(g)}$ +0.81
$Ag^+_{(aq)} + e^- \rightleftharpoons Ag_{(s)}$ +0.80
$Fe^{3+}_{(aq)} + e^- \rightleftharpoons Fe^{2+}_{(aq)}$ +0.77
$O_{2(g)} + 2H^+_{(aq)} + 2e^- \rightleftharpoons H_2O_{2(\ell)}$ +0.68
$I_{2(aq)} + 2e^- \rightleftharpoons 2I^-_{(aq)}$ +0.54
$O_{2(g)} + 2H_2O_{(\ell)} + 4e^- \rightleftharpoons 4OH^-_{(aq)}$ +0.40
$Cu^{2+}_{(aq)} + 2e^- \rightleftharpoons Cu_{(s)}$ +0.34
$Sn^{4+}_{(aq)} + 2e^- \rightleftharpoons Sn^{2+}_{(aq)}$ +0.15
$2H^+_{(aq)} + 2e^- \rightleftharpoons H_{2(g)}$ 0.00
$Pb^{2+}_{(aq)} + 2e^- \rightleftharpoons Pb_{(s)}$ -0.13
$Sn^{2+}_{(aq)} + 2e^- \rightleftharpoons Sn_{(s)}$ -0.14
$Ni^{2+}_{(aq)} + 2e^- \rightleftharpoons Ni_{(s)}$ -0.23
$Co^{2+}_{(aq)} + 2e^- \rightleftharpoons Co_{(s)}$ -0.28
$Cd^{2+}_{(aq)} + 2e^- \rightleftharpoons Cd_{(s)}$ -0.40
$Fe^{2+}_{(aq)} + 2e^- \rightleftharpoons Fe_{(s)}$ -0.41
$Cr^{3+}_{(aq)} + 3e^- \rightleftharpoons Cr_{(s)}$ -0.74
$Zn^{2+}_{(aq)} + 2e^- \rightleftharpoons Zn_{(s)}$ -0.76
$2H_2O_{(\ell)} + 2e^- \rightleftharpoons 2OH^-_{(aq)} + H_{2(g)}$ -0.83
$2NO^-_{3(aq)} + 2H_2O_{(\ell)} + 2e^- \rightleftharpoons 4OH^-_{(aq)} + N_2O^*_{4(g)}$ -0.85
$SO^{2-}_{4(aq)} + H_2O_{(\ell)} + 2e^- \rightleftharpoons SO^{2-}_{3(aq)} + 2OH^-_{(aq)}$ -0.92
$Al^{3+}_{(aq)} + 3e^- \rightleftharpoons Al_{(s)}$ -1.66
$Mg^{2+}_{(aq)} + 2e^- \rightleftharpoons Mg_{(s)}$ -2.37
$Na^+_{(aq)} + e^- \rightleftharpoons Na_{(s)}$ -2.71
$Ca^{2+}_{(aq)} + 2e^- \rightleftharpoons Ca_{(s)}$ -2.76
$K^+_{(aq)} + e^- \rightleftharpoons K_{(s)}$ -2.92
$Li^+_{(aq)} + e^- \rightleftharpoons Li_{(s)}$ -3.00

SRA

Decreasing Strength of Oxidizing Agents

Decreasing Strength of Reducing Agents

* Colorless $N_2O_{4(g)}$ decomposes into brown $NO_{2(g)}$

** Reduction potentials for 1.0 mol/L aqueous solutions at 25°C and 101 kPa

*** Shown as aqueous for convenience, actually measured in gaseous form

5. Molar Heats of Formation*

t = 25°C P = 101 kPa

Name	Formula	H_f (kJ/mol)
acetic acid	$CH_3COOH_{(\ell)}$	-488.6
acetone	$CH_3COCH_{3(\ell)}$	-115.6
acetylene	$C_2H_{2(g)}$	+226.9
aluminum oxide	$Al_2O_{3(s)}$	-1676.0
ammonia	$NH_{3(g)}$	-46.1
benzene	$C_6H_{6(\ell)}$	+82.8
butane	$C_4H_{10(\ell)}$	-126.8
calcium carbide	$CaC_{2(s)}$	-62.8
calcium carbonate	$CaCO_{3(s)}$	-1206.9
calcium chloride	$CaCl_{2(s)}$	-795.8
calcium oxide	$CaO_{(s)}$	-635.1
carbon dioxide	$CO_{2(g)}$	-393.5
carbon disulfide	$CS_{2(\ell)}$	+117.2
carbon monoxide	$CO_{(g)}$	-110.5
copper(II) oxide	$CuO_{(s)}$	-156.6
copper(I) oxide	$Cu_2O_{(s)}$	-155.3
ethane	$C_2H_{6(g)}$	-84.6
ethanol	$C_2H_5OH_{(\ell)}$	-277.6
ethene (ethylene)	$C_2H_{4(g)}$	+52.3
ethylene dichloride	$C_2H_4Cl_{2(\ell)}$	-166.3
ethylene glycol	$C_2H_4(OH)_{2(\ell)}$	-455.0
ethylene oxide	$C_2H_4O_{(g)}$	-51.1
glucose	$C_6H_{12}O_{6(s)}$	-1260.0
hydrogen chloride	$HCl_{(g)}$	-92.6
hydrogen iodide ($I_{2(s)}$)	$HI_{(g)}$	+26.0
hydrogen iodide ($I_{2(g)}$)	$HI_{(g)}$	-5.0
hydrogen peroxide	$H_2O_{2(\ell)}$	-188.0
hydrogen sulfide	$H_2S_{(g)}$	-20.5
iron(III) oxide	$Fe_2O_{3(s)}$	-822.7
methane	$CH_{4(g)}$	-74.9
methanol	$CH_3OH_{(\ell)}$	-238.6
nitrogen dioxide	$NO_{2(g)}$	+33.9
nitrogen monoxide	$NO_{(g)}$	+90.4
nitromethane	$CH_3NO_{2(\ell)}$	-89.2
octane	$C_8H_{18(\ell)}$	-208.7
propane	$C_3H_{8(g)}$	-103.8
sucrose	$C_{12}H_{22}O_{11(s)}$	-1742.0
sulfuric acid	$H_2SO_{4(\ell)}$	-812.2
sulfur dioxide	$SO_{2(g)}$	-297.1
2,2,4-trimethylpentane	$C_8H_{18(\ell)}$	-224.1
sulfur trioxide	$SO_{3(g)}$	-395.7
vinyl chloride	$C_2H_3Cl_{(g)}$	+33.9
water (liquid)	$H_2O_{(\ell)}$	-285.8
water (vapor)	$H_2O_{(g)}$	-241.8

* *Molar heats of formation for elements in natural occurring form are assumed to be zero*

Refer to the CRC Handbook of Chemistry and Physics for further data.

Side 1

6. Two Place Logs

No.	Log	No.	Log	No.	Log	No.	Log	No.	Log
1.0	00	3.0	48	5.0	70	7.0	85	9.0	95
1.1	04	3.1	49	5.1	71	7.1	85	9.1	96
1.2	08	3.2	51	5.2	72	7.2	86	9.2	96
1.3	11	3.3	52	5.3	72	7.3	86	9.3	97
1.4	15	3.4	53	5.4	73	7.4	87	9.4	97
1.5	18	3.5	54	5.5	74	7.5	88	9.5	98
1.6	20	3.6	56	5.6	75	7.6	88	9.6	98
1.7	23	3.7	57	5.7	76	7.7	89	9.7	99
1.8	26	3.8	58	5.8	76	7.8	89	9.8	99
1.9	28	3.9	59	5.9	77	7.9	90	9.9	1.00
2.0	30	4.0	60	6.0	78	8.0	90	10.0	00
2.1	32	4.1	61	6.1	79	8.1	91	10.1	00
2.2	34	4.2	62	6.2	79	8.2	91	10.2	01
2.3	36	4.3	63	6.3	80	8.3	92	10.3	01
2.4	38	4.4	64	6.4	81	8.4	92	10.4	02
2.5	40	4.5	65	6.5	81	8.5	93	10.5	02
2.6	41	4.6	66	6.6	82	8.6	93	10.6	03
2.7	43	4.7	67	6.7	83	8.7	94	10.7	03
2.8	45	4.8	68	6.8	83	8.8	94	10.8	03
2.9	46	4.9	69	6.9	84	8.9	95	10.9	04

ALCHEM Chemistry

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data sheet

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7. Solubilities

$t = 25°C$ $P = 101\ kPa$

$HCl_{(aq)}$	*38%	12.4 mol/L
$H_3PO_{4(aq)}$	85%	14.7 mol/L
$HNO_{3(aq)}$	69%	15.4 mol/L
$CH_3COOH_{(aq)}$	99.5%	17.4 mol/L
$H_2SO_{4(aq)}$	94%	17.6 mol/L
$NH_{3(aq)}$	28%	14.8 mol/L
$NaOH_{(aq)}$	50%	19.1 mol/L

$AgCl_{(aq)}$	4.1×10^{-6} mol/L
$CaCO_{3(aq)}$	6.9×10^{-5} mol/L
$Ca(OH)_{2(aq)}$	6.9×10^{-3} mol/L
$C_{12}H_{22}O_{11(aq)}$	3.8 mol/L
$NaCl_{(aq)}$	5.3 mol/L

* percent by mass

8. Acid-Base Indicators at 25°C

Indicator	pH Range	$HIn_{(aq)}$	$In^-_{(aq)}$
methyl orange	3.1 – 4.4	red	yellow
methyl red	4.2 – 6.3	red	yellow
litmus	6.5 – 7.5	red	blue
bromothymol blue	6.0 – 7.6	yellow	blue
phenolphthalein	8.0 – 9.6	colorless	red
alizarin yellow	10.1 – 12.0	colorless	violet

9. Relative Strengths of Acids and Bases

Strong Acids

	Name of Acid Species	Percent Reaction of 0.10 mol/L Solution	Reaction of 0.10 mol/L Aqueous Acid Species with $H_2O_{(\ell)}$	Name of Base Species	
1	perchloric acid	100	$HClO_{4(aq)} + H_2O_{(\ell)} \xrightarrow{6} H_3O^+_{(aq)} + ClO^-_{4(aq)}$	perchlorate ion	
	hydroiodic acid	100	$HI_{(aq)} + H_2O_{(\ell)} \rightarrow H_3O^+_{(aq)} + I^-_{(aq)}$	iodide ion	
	hydrobromic acid	100	$HBr_{(aq)} + H_2O_{(\ell)} \rightarrow H_3O^+_{(aq)} + Br^-_{(aq)}$	bromide ion	
	hydrochloric acid	100	$HCl_{(aq)} + H_2O_{(\ell)} \rightarrow H_3O^+_{(aq)} + Cl^-_{(aq)}$	chloride ion	2
	nitric acid	100	$HNO_{3(aq)} + H_2O_{(\ell)} \rightarrow H_3O^+_{(aq)} + NO^-_{3(aq)}$	nitrate ion	
	sulfuric acid	100	$H_2SO_{4(aq)} + H_2O_{(\ell)} \rightarrow H_3O^+_{(aq)} + HSO^-_{4(aq)}$	hydrogen sulfate ion	
3	hydronium ion	100	$H_3O^+_{(aq)} + H_2O_{(\ell)} \rightarrow H_3O^+_{(aq)} + H_2O_{(\ell)}$	water	
	oxalic acid	53	$HOOCCOOH_{(aq)} + H_2O_{(\ell)} \rightleftharpoons H_3O^+_{(aq)} + HOOCCOO^-_{(aq)}$	hydrogen oxalate ion	
	sulfurous acid $(SO_{2(aq)} + H_2O_{(\ell)})$	32	$H_2SO_{3(aq)} + H_2O_{(\ell)} \rightleftharpoons H_3O^+_{(aq)} + HSO^-_{3(aq)}$	hydrogen sulfite ion	
	hydrogen sulfate ion	29	$HSO^-_{4(aq)} + H_2O_{(\ell)} \rightleftharpoons H_3O^+_{(aq)} + SO^{2-}_{4(aq)}$	sulfate ion	
	methyl orange[7]	–	$HMo_{(aq)} + H_2O_{(\ell)} \rightleftharpoons H_3O^+_{(aq)} + Mo^-_{(aq)}$	methyl orange ion	
	phosphoric acid	24	$H_3PO_{4(aq)} + H_2O_{(\ell)} \rightleftharpoons H_3O^+_{(aq)} + H_2PO^-_{4(aq)}$	dihydrogen phosphate ion	
	hydrofluoric acid	8.2	$HF_{(aq)} + H_2O_{(\ell)} \rightleftharpoons H_3O^+_{(aq)} + F^-_{(aq)}$	fluoride ion	
	nitrous acid	7.3	$HNO_{2(aq)} + H_2O_{(\ell)} \rightleftharpoons H_3O^+_{(aq)} + NO^-_{2(aq)}$	nitrite ion	5
	bromothymol blue[7]	–	$HBb_{(aq)} + H_2O_{(\ell)} \rightleftharpoons H_3O^+_{(aq)} + Bb^-_{(aq)}$	bromothymol blue ion	
	benzoic acid	2.6	$C_6H_5COOH_{(aq)} + H_2O_{(\ell)} \rightleftharpoons H_3O^+_{(aq)} + C_6H_5COO^-_{(aq)}$	benzoate ion	
	hydrogen oxalate ion	2.1	$HOOCCOO^-_{(aq)} + H_2O_{(\ell)} \rightleftharpoons H_3O^+_{(aq)} + OOCCOO^{2-}_{(aq)}$	oxalate ion	
	ethanoic (acetic) acid	1.3	$CH_3COOH_{(aq)} + H_2O_{(\ell)} \rightleftharpoons H_3O^+_{(aq)} + CH_3COO^-_{(aq)}$	acetate ion	
	carbonic acid $(CO_{2(aq)} + H_2O_{(\ell)})$	0.21	$H_2CO_{3(aq)} + H_2O_{(\ell)} \xleftarrow{6} H_3O^+_{(aq)} + HCO^-_{3(aq)}$	hydrogen carbonate ion	
	phenolphthalein[7]	–	$HPh_{(aq)} + H_2O_{(\ell)} \leftarrow H_3O^+_{(aq)} + Ph^-_{(aq)}$	phenolphthalein ion	
	hydrogen sulfide	9.8×10^{-2}	$H_2S_{(aq)} + H_2O_{(\ell)} \leftarrow H_3O^+_{(aq)} + HS^-_{(aq)}$	hydrogen sulfide ion	
5	dihydrogen phosphate ion	7.9×10^{-2}	$H_2PO^-_{4(aq)} + H_2O_{(\ell)} \leftarrow H_3O^+_{(aq)} + HPO^{2-}_{4(aq)}$	hydrogen phosphate ion	
	hydrogen sulfite ion	4.6×10^{-2}	$HSO^-_{3(aq)} + H_2O_{(\ell)} \leftarrow H_3O^+_{(aq)} + SO^{2-}_{3(aq)}$	sulfite ion	
	ammonium ion	7.5×10^{-3}	$NH^+_{4(aq)} + H_2O_{(\ell)} \leftarrow H_3O^+_{(aq)} + NH_{3(aq)}$	ammonia	
	hydrogen carbonate ion	2.4×10^{-3}	$HCO^-_{3(aq)} + H_2O_{(\ell)} \leftarrow H_3O^+_{(aq)} + CO^{2-}_{3(aq)}$	carbonate ion	
	hydrogen phosphate ion	6.7×10^{-4}	$HPO^{2-}_{4(aq)} + H_2O_{(\ell)} \leftarrow H_3O^+_{(aq)} + PO^{3-}_{4(aq)}$	phosphate ion	
	hydrogen sulfide ion	3.3×10^{-6}	$HS^-_{(aq)} + H_2O_{(\ell)} \leftarrow H_3O^+_{(aq)} + S^{2-}_{(aq)}$	sulfide ion	
	water (55.5 mol/L)	1.8×10^{-7}	$H_2O_{(\ell)} + H_2O_{(\ell)} \leftarrow H_3O^+_{(aq)} + OH^-_{(aq)}$	hydroxide ion	
	hydroxide ion	0	$OH^-_{(aq)} + H_2O_{(\ell)} \leftarrow H_3O^+_{(aq)} + O^{2-}_{(aq)}$	oxide ion	4

Decreasing Strength of Acids

Decreasing Strength of Bases

Strong Bases

Notes:

1 All strong acids are completely reacted and therefore written as $H_3O^+_{(aq)}$ plus the anion of the acid.
2 All negative ions above water on the right side of the equation have essentially no ability to attract protons.
3 The hydronium ion is only listed so that H_2O may appear as a base on the right side of the equation.
4 $O^{2-}_{(aq)}$ does not exist and is written as $OH^-_{(aq)}$.
5 Quantitative acid-base reactions are those involving the reaction of $H_3O^+_{(aq)}$ with any base below the nitrite ion, and the reaction of $OH^-_{(aq)}$ with any acid above the hydrogen sulfite ion.
6 A single arrow is used for equilibria which are greater than 99% in one direction. In this acid-base table the equilibrium arrows are for the reaction of the 0.10 mol/L aqueous acid with water.
7 Indicators are not used as 0.10 mol/L solutions. The indicators have been empirically placed on the table so approximate reaction predictions can be made.

10. Formulas

$$\frac{n}{t} = \frac{I}{F} = \frac{I}{9.65 \times 10^4}$$

$$E_{(kW\ h)} = \frac{Pt}{1000}$$

$$E_{(J)} = Pt$$

11. SI Units & Symbols

metre	m
gram	g
tonne	t
mole	mol
litre	L
second	s
ampere	A
volt	V
coulomb	C
joule	J
kilowatt hour	kW h
pascal	Pa

12. SI Prefixes

Prefix	Symbol	Factor
exa	E	10^{18}
peta	P	10^{15}
tera	T	10^{12}
* giga	G	10^9
* mega	M	10^6
** kilo	k	10^3
hecto	h	10^2
deca	da	10^1
deci	d	10^{-1}
** centi	c	10^{-2}
** milli	m	10^{-3}
* micro	μ	10^{-6}
* nano	n	10^{-9}
* pico	p	10^{-12}
femto	f	10^{-15}
atto	a	10^{-18}

** most common
* next most common

Side 2

Value

SECTION A

Investigative Skills

Do the ONE complete item from this section. Total value: 10%.

1. A student was interested in determining how pressure would affect the rate at which gaseous hydrogen chloride ($HCl_{(g)}$) would dissolve in water. The following data were obtained:

Pressure (KPa)	**Rate** (mL $HCl_{(g)}$/min.)
50.0	4.0
100.0	9.0
150.0	12.0
200.0	14.0
250.0	15.0

3 (a) Draw a properly labelled graph of the results.

2 (b) What generalization can be inferred from this experiment?

2 (c) Name any **two** variables that must be controlled in this experiment.

2 (d) Write the dissociation equation showing $HCl_{(g)}$ dissolving in water.

1 (e) What simple test could be performed to confirm that $HCl_{(g)}$ is dissolving in the water?

SECTION B

Do any FOUR complete items in this section. Total value: 48%.

2. (a) As a laboratory activity, a student is asked to prepare 150 mL of a 0.100 mol/L sodium hydroxide ($NaOH_{(aq)}$) solution.

2 (i) Calculate the mass of solid sodium hydroxide required.

3 (ii) List the steps necessary to prepare the solution.

3 (b) (i) What is activation energy?

(ii) How does the use of a catalyst affect the activation energy?

4 (c) Using examples, briefly explain the difference(s) between ionic bonding and covalent bonding.

6 3. (a) Consider the following equilibrium:

$$CH_{4(g)} + 2H_2S_{(g)} \rightleftharpoons CS_{2(g)} + 4H_{2(g)}$$

What effect would the following changes have on the equilibrium concentration of each substance involved? Give your reasoning in each case.

(i) addition of $CH_{4(g)}$

(ii) addition of a catalyst

(iii) a decrease in pressure

2 (b) Calculate the $[OH^-_{(aq)}]$ of milk of magnesia that has $[H_3O^+_{(aq)}] = 7.0 \times 10^{-11}$ mol/L.

Value

4 (c) Briefly explain which compound in each pair has the higher boiling point.

(i) ICl or KCl

(ii) CO_2 or H_2O

(iii) SiC or C_2H_5OH

(iv) C_2H_6 or C_2H_5Cl

4 4. (a) Briefly explain why I_2 is **NOT** soluble in hydrogen peroxide (H_2O_2), slightly soluble in ethanol (C_2H_5OH) and soluble in carbon tetrachloride (CCl_4).

4 (b) A 200.0 g sample of rubidium, Rb, was sealed in a glass vial and lowered into 600 mL of water at 90.00°C. When the rubidium had melted, the temperature of the water dropped to 84.50°C. Determine the molar heat of melting for rubidium.

4 (c) A student reacted solutions of silver nitrate ($AgNO_3$) and barium chloride ($BaCl_2$).

(i) Write the balanced chemical equation.

(ii) Write the total ionic equation.

(iii) Write the net ionic equation.

4 5. (a) (i) Using nitric acid ($HNO_{3(aq)}$) as a strong acid and hydrofluoric acid ($HF_{(aq)}$) as a weak acid, explain the difference in dissociation behaviour when a strong and a weak acid are dissolved in water.

4 (ii) Show that there is a difference in dissociation behaviour by comparing a 0.010 mol/L $HNO_{3(aq)}$ solution with a 0.01 mol/L $HF_{(aq)}$ solution.

(b) Consider a solution of ethanol, C_2H_5OH, in water and a solution of potassium hydroxide, KOH, in water.

1 (i) Which one would be considered an electrolyte?

1 (ii) How could you confirm this in the laboratory?

2 (c) Briefly explain why water expands upon freezing.

4 6. (a) Draw the electron dot formulas for each of the following:

(i) PCl_3

(ii) C_2H_2

(iii) OF_2

(iv) CH_3OH

4 (b) A 30.0 mL sample of sodium hydroxide solution was titrated to the endpoint with a 0.150 mol/L hydrochloric acid solution, giving the following data:

Initial buret reading:	0.70 mL
Final buret reading:	17.50 mL

Calculate the concentration of the hydroxide ion in solution.

4 (c) What effect would an increase in pressure and an increase in temperature each have on the solubility of a gas in a liquid? Explain why the effects would occur.

2 7. (a) Arrange the following substances in order of increasing boiling points:

KF, Ca, SiO_2, Ar

4 (b) Calculate the pH of a 0.100 mol/L benzoic acid solution.

6 (c) A solution was prepared by adding 12.0 g of solid sodium hydroxide (NaOH) to 550 mL of water. This solution was then added to 550 mL of iron (III) chloride solution. Calculate the concentration of the sodium and chloride ions in the resulting solution?

SECTION C

Do any **ONE** complete item from this section. Total value: 12%.

8. NUCLEAR CHEMISTRY

3 (a) List **three** factors affecting nuclear stability.

2 (b) The isotope ${}^{51}_{22}\text{Ti}$ decays with a half-life of 6 minutes. How much of a 400 g sample would remain after 36 minutes?

3 (c) Complete any three of the following:

(i) ${}^{63}_{29}\text{Cu} + {}^{2}_{1}\text{H} \longrightarrow {}^{3}_{1}\text{H} +$ ______

(ii) ${}^{241}_{94}\text{Pu} \longrightarrow {}^{237}_{93}\text{Np} + {}^{0}_{-1}\text{B} +$ ______

(iii) ${}^{226}_{88}\text{Ra} \longrightarrow {}^{4}_{2}\text{He} + {}^{222}_{86}\text{Rn} +$ ______

(iv) ${}^{235}_{92}\text{U} + {}^{1}_{0}\text{n} \longrightarrow 3\,{}^{1}_{0}\text{n} + {}^{92}_{36}\text{Kr} +$ ______

4 (d) Using examples, briefly explain the difference between fusion and fission.

9. CARBON CHEMISTRY

4 (a) Draw structural formulas for **four** of the following:

(i) 2, 4-dimethylhexane

(ii) ethylbenzene

(iii) 3-ethyl-4-methyl-2-pentene

(iv) ethyl butanoate

(v) 2-heptane

4 (b) Write equations using structural formulas for **two** of the following:

(i) addition of water to 2-butene

(ii) formation of an ester from 1-propanol and acetic acid

(iii) combustion of 2, 3, 4-trimethylhexane

4 (c) Use specific examples to explain the difference between substitution and addition reactions.

10. ELECTROCHEMISTRY

4 (a) Briefly state the main differences, if any, between an electrochemical cell and an electrolytic cell.

(b) Given the following representation for an electrochemical cell:

$\text{Al}_{(s)}/\text{Al}^{3+}{}_{(aq)} \; // \; \text{Ni}^{2+}{}_{(aq)}/\text{Ni}_{(s)}$

1 (i) Draw a diagram to represent this cell.

1 (ii) Identify and label the electrodes and electrolytes.

1 (iii) Indicate the direction of electron flow and the migration of ions.

2 (iv) Write the equations for the oxidation and reduction half-reactions.

1 (v) Write a balanced net equation indicating the net voltage.

2 (vi) Identify the oxidizing agent and the reducing agent.

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

GEOLOGY 3203

NOVEMBER 1989

PART I

Value: 30 marks

Time: 30 minutes

Examination Number ____________________

GENERAL INSTRUCTIONS

1. Part I consists of objective items only arrange in two sections as follows, and candidates are required to do all items:

   SECTION A — 10 completion items — 10%
   SECTION B — 20 multiple-choice items — 20%

2. Answers are to be written on this paper.

3. Be sure to write your Examination Number in the space provided above.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the Chief Supervisor prior to the first session, and have been posted for further reference near the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

— Materials required
— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

Value

SECTION A

Do **ALL** items in this section by writing the correct response for each in blank at the right. Total value: 10%.

1. What term is used to describe a spoke-like drainage pattern? (1) ____________________

2. The earth's materials can be grouped into three basic types: lithosphere, hydrosphere and atmosphere. What term is given to the place where two or three of the spheres meet? .... (2) ____________________

3. What is the study of earthquakes called? .... (3) ____________________

4. What term is used to denote size and arrangement of mineral grains in rock? .... (4) ____________________

5. What is the boundry between the lithosphere and the mantle called? .... (5) ____________________

6. What term means the resistance to flow in liquids? ..... (6) ____________________

7. In which geologic era did Trilobites live? .... (7) ____________________

8. What group of minerals consists of oxygen and one or more metals? .... (8) ____________________

9. What is the general name given to dark, small-grained volcanic rocks? .... (9) ____________________

10. What geologic term denotes the removal of weathered material from one place to another? .... (10) ____________________

SECTION B

Do **ALL** items in this section by writing the letter of the correct response for each in the blank at the right: Total value: 20%.

11. In which area in the Atlantic Ocean would one expect the most earthquake activity? .... (11) ______
    (A) continental shelves
    (B) continental slope
    (C) continental rises
    (D) mid-Atlantic ridge

12. Which of the following geologic time units represents the greatest time span? (12) ______
    (A) era
    (B) period
    (C) epoch
    (D) millenium

13. Which of the following would **NOT** be considered among the external processes that shape the land surface? .... (13) ______
    (A) creep
    (B) erosion
    (C) weathering
    (D) metamorphism

14. At which locations are the major mountain systems thought to have developed? (14) ______
    (A) former geosynclines
    (B) major ocean basins
    (C) ocean trenches
    (D) thin sediments

15. What term is given to microscopic single-celled organisms that form carbonate skeletons? .... (15) ______
    (A) sponges
    (B) diatoms
    (C) foraminifera
    (D) sulfides

16. In which geological region would a high heat flow province exist? .... (16) ______
(A) an ocean trench
(B) a mid-ocean ridge
(C) a continental shelf
(D) an ocean basin

17. What is the name given to the surface between layers of sedimentary rocks? (17) ______
(A) horizons
(B) cross-beds
(C) profiles
(D) bedding planes

18. During which geologic period did the most recent glacial advances occur? (18) ______
(A) Precambrian
(B) Teritary
(C) Quaternary
(D) Pleistocene

19. What is the decay product of the radioactive substance, Potassium 40?... (19) ______
(A) Carbon 40
(B) Potassium 420
(C) Uranium 240
(D) Argon 40

20. Which seismic waves can travel through the earth's liquids, solids and gasses? (20) ______
(A) love waves
(B) S waves
(C) compressional waves
(D) Rayleigh waves

21. At the end of which era did the supercontinent, named by Wegener, begin to break up? .... (21) ______
(A) Precambrian
(B) Paleozoic
(C) Mesozoic
(D) Cenozoic

22. What is the name given to solid rock formed from debris left by a glacier? (22) ______
(A) moraine
(B) outwash
(C) stratified drift
(D) tillite

23. Which rock group comprises 96% of the earth's crust? .... (23) ______
(A) carbonates
(B) halides
(C) oxides
(D) silicates

24. Which term refers to the amount of time it takes for half of the radioactive atoms in a sample to decay? .... (24) ______
(A) half-life
(B) heat source
(C) isoline
(D) isotope

25. What is the primary source of the earth's internal heat? .... (25) ______
(A) volcanic activity
(B) radioactive activity
(C) earthquake activity
(D) the sun

26. Who was the first scientist to state the principle of uniformitarianism? ... (26) ______
(A) Darwin
(B) Hutton
(C) Kelvin
(D) Hall

27. Which ocean water movement is a result of seismic activity? .... (27) _____
(A) surface waves
(B) Rayleigh waves
(C) tsunamis
(D) density currents

28. Which of the following is NOT found in granite? .... (28) _____
(A) feldspar
(B) obsidian
(C) mica
(D) quartz

29. Which of the following particles would be transported the greatest distance by a current? .... (29) _____
(A) fine sand
(B) course sand
(C) silt
(D) boulder

30. What term refers to the rate of temperature increase with depth into the earth's interior? .... (30) _____
(A) heat flow
(B) thermistor gradient
(C) geothermal gradient
(D) volcanic gradient

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

GEOLOGY 3203

NOVEMBER 1989

PART II

Value: 70 marks

Time: 2 hours, 30 minutes

GENERAL INSTRUCTIONS

1. Part II consists of essay items only arranged in four sections with requirements as follows:

   SECTION A — Do any ONE item — 10%
   SECTION B — Do any THREE items — 30%
   SECTION C — Do any TWO items — 20%
   SECTION D — Do any ONE item — 10%

2. One sheet of graph paper is provided for use in doing Section A.

3. Answers are to be written in the booklet provided.

REGULATIONS FOR CANDIDATES

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SECTION A

Investigative Skills

Do any **ONE** complete item from this section. Total value: 10%.

1. A geologist studied the settling time of particles and grain size to arrive at the following data:

Grain Size (mm)	Settling Time (sec.)
0.02	30
0.04	20
0.06	15
0.08	12.5
0.10	11.25

3 (a) Describe an experimental setup the geologist might have been using to investigate this phenomenon.

1 (b) What hypothesis might he/she be investigating?

3 (c) Plot the above data on the graph paper provided to show the relationship illustrated by the data.

2 (d) State a conclusion for this experiment.

1 (e) What area in nature would one find settling at the rates indicated in this experiment?

4 2. (a) Assume that a radioactive substance "X" has a half-life of 15,000 years. Construct a graph which shows the decomposition of this substance into the decay product. Assume that the original weight of the substance is 10 kg.

1 (b) How much parent material still remains after 45,000 years?

1 (c) How much decay product has formed after 60,000 years?

2 (d) If this subtance "X" were buried deep in the crust and exposed to an increase in temperature and pressure, what effect, if any, would this have on the decay rate? Explain.

2 (e) Could this substance "X" be used to date rocks from the Mesozoic era? Explain.

SECTION B

Do any **THREE** complete items from this section. Total value: 30%.

10 3. (a) Briefly tell the difference between the terms in any **FIVE** of the following pairs:

(i) atom and ion
(ii) stalactites and stalagmites
(iii) island arc and ocean trench
(iv) contact metamorphism and regional metamorphism
(v) plutonic and volcanic igneous rock
(vi) diatoms and foraminifera
(vii) disintegration and decomposition

4 4. (a) Why are some igneous rocks fine-grained and others coarse-grained? On this basis, in which of these categories would plutonic rocks fit? Explain why.

2 (b) At the earth's surface granite starts to melt at approximately 900 degrees celcius and is completely melted at approximately 1050 degrees celcius. Explain why there exists this variation in temperature.

4 (c) Describe the process by which clay becomes gneiss.

Value

4 5. (a) With the aid of carefully labelled diagrams, explain Charles Darwin's theory on the development of coral reefs.

3 (b) Explain how the process of coral reef development can be used as an indicator of crustal movement.

3 (c) Describe the development of a typical geosyncline.

4 6. (a) Briefly describe the difference between dendritic drainage and trellised drainage. What would the bedrock in each of these areas typically be like?

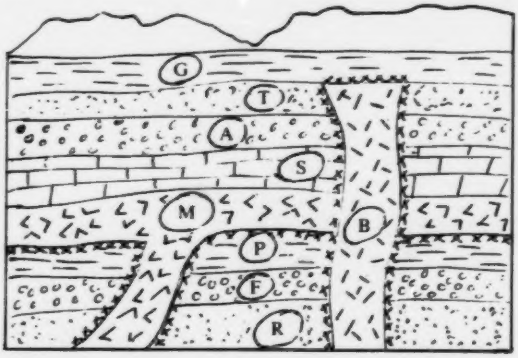
3 (b) Explain why, in a particular area, physical weathering might stop long before chemical weathering?

3 (c) Briefly describe the formation of a delta.

SECTION C

Do any **TWO** complete items from this secion. Total value: 20%.

7. Do **ALL** parts of this item below based on the following figure:



3 (a) Arrange the letters of the various rock units from the figure in the order in which they formed, beginning with the oldest.

2 (b) Which layer is younger, M or B? Explain your answer.

1 (c) Which layer represents a limestone formation?

2 (d) How can you tell that M represents extrusive volcanism?

2 (e) State the principle of superposition.

2 8. (a) What are fossils?

3 (b) Why are fossils not likely to be found in certain rock types?

2 (c) Why are microfossils especially useful to the petroleum geologist?

3 (d) What can fossils tell us about ancient environmental conditions?

3 9. (a) Name and describe **TWO** types of glacial drift.

2 (b) How are sediments deposited by a river different from those deposited by ice?

2 (c) How could you explain a sedimentary layer with large grains on top and smaller grains on the bottom?

3 (d) Suppose you find two sedimentary rocks, one composed of rounded grains of calcite and the other composed of relatively angular fragments of quartz. Can you tell which had been transported the farthest? Why or why not?

Value

SECTION D

Do any **ONE** item from this section. Total value: 10%.

4 10. (a) With the aid of a diagram, explain the Hess-Dietz concept of ocean floor spreading.

2 (b) What **TWO** discoveries confirmed the sea-floor spreading hypothesis?

2 (c) Why were scientists surprised by the young rocks in the Pacific Ocean?

2 (d) What is happening geologically at the mid-Atlantic ridge?

4 11. (a) Name and briefly describe the **FOUR** types of seismic waves. Which of these waves cause(s) the damage during an earthquake?

2 (b) Explain why scientists believe that the earth's outer core is liquid in nature.

4 (c) Explain the difference between the Modified Mercalli Scale and the Richter Scale as earthquake measures, and tell why it is possible to have a small reading on one scale and a large reading on the other scale from the same earthquake.

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

PHYSICS 3204

NOVEMBER 1989

PART I

Value: 30 marks

Time: 45 minutes

Examination Number ___________________

GENERAL INSTRUCTIONS

1. Part I consists of objective items only, arranged in two sections as follows:

   SECTION A — 15 completion — 15%
   SECTION B — 15 multiple-choice — 15%

2. Do **all** items as directed in each section.
3. All answers are to be written in this paper.
4. Be sure to write your Examination Number in the space provided above.

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Value

SECTION A

Do all items in this section by writing the correct response for each in blank at the right. Total value: 15%.

1. What is the process whereby the eye and the brain interact to rapidly focus on objectives which are at different distances from the person? .... (1) ______________________

2. What noise would be generated if you tapped a bell with a rubber hammer? .... (2) ______________________

3. What term refers to the bending of a wave as it goes through an opening or around a barrier? .... (3) ______________________

4. What term refers to the transfer of energy between two vibrating objects of the same natural frequency through some coupling medium? .... (4) ______________________

5. What characteristic of a light ray remains constant as the light travels from air to glass? .... (5) ______________________

6. What name is given to the pattern of colours that results when white light is sent through a glass prism? .... (6) ______________________

7. What term would be used to describe a room in which all sound is absorbed by the walls? .... (7) ______________________

8. What does an object lose when it becomes positively charged? (8) ______________________

9. What electrical measuring device is made when a series resistor is added to a galvanometer? .... (9) ______________________

10. If the cross sectional area of a conductor is increased while all other parameters remain constant, what happens to its resistance? .... (10) ______________________

11. What is the term for the rearrangement of electric charges inside or on the surface of a neutral body due to the influence of a nearby charged object? .... (11) ______________________

12. The retina of the eye performs a function similar to what part of a camera? .... (12) ______________________

13. How many times will the power dissipated in a resistor be increased when the current flowing in the resistor is doubled? (13) ______________________

14. What is the equivalent resistance of four 100 Ω resistors combined in parallel? .... (14) ______________________

15. What scientist formulated a law which can be used to predict the force between two charged particles? .... (15) ______________________

SECTION B

Do ALL items in this section by writing the letter of the correct response for each in the blank at the right. Total value: 15%.

16. What characteristic of a sound would increase if you increased the amplitude of a vibrating tuning fork which is producing a sound wave? .... (16) ________
    (A) frequency
    (B) wavelength
    (C) loudness
    (D) speed

17. What area of the retina produces the greatest perception of detail? ...... (17) ________
    (A) macula lutea
    (B) optic nerve
    (C) scleratic coat
    (D) iris

18. When fish look up they can see through the water directly overhead, but farther away (from the vertical) they can see only an image of the bottom. What causes this phenomenon? .... (18)______
    (A) diffraction
    (B) polarization
    (C) the Doppler effect
    (D) total internal reflection

19. If the wavelength of light moving in a certain medium is doubled, what will be the frequency of the light? .... (19)______
    (A) doubled
    (B) halved
    (C) one quarter the original
    (D) four times the original

20. In what part of the ear is mechanical vibration of the ossicles converted to hydraulic pressure? .... (20)______
    (A) cochlea
    (B) eardrum
    (C) auditory nerve
    (D) eustachian tube

21. The distance light travels in one year is a "light year". What is the approximate number of kilometres in a light year? .... (21)______
    (A) 10^5
    (B) 10^8
    (C) 10^{13}
    (D) 10^{20}

22. An archer fish shoots a jet of water from beneath the surface to knock insects off plant leaves. The fish does not aim directly at the insect, but to one side. What is the cause of this phenomenon? .... (22)______
    (A) interference of light
    (B) diffraction effects
    (C) refraction effects
    (D) dispersion

23. Which of the following does NOT affect the resistance of a length of wire? (23)______
    (A) changing the kind of insulation on the wire
    (B) changing the diameter of the wire
    (C) changing the type of wire
    (D) changing the temperature

24. Who was the first person to apply the terms positive and negative to electrically charged objects? .... (24)______
    (A) William Gilbert
    (B) Charles Dufay
    (C) Michael Faraday
    (D) Benjamin Franklin

25. Which of the following (as found by Ampere) describes the force between two close wires in which current is moving in the same direction? .... (25)______
    (A) repulsive
    (B) attractive
    (C) directed upwards
    (D) directed downwards

26. A current of 2A is flowing through a resistance of 10 Ω. What is the power (in watts) dissipated in the resistance? .... (26)______
    (A) 2.5
    (B) 5
    (C) 20
    (D) 40

27. Why is alternating current (AC) preferred to direct current (DC) in the transmission of electric power? .... (27)______
    (A) AC is more powerful than DC.
    (B) AC voltages can be easily changed by simple devices.
    (C) AC travels faster than DC.
    (C) AC is not as dangerous as DC.

28. **Which one of the following is NOT true regarding the electric force between two charged objects? .... (28)________**
   - **(A) It can be either attractive or repulsive.**
   - **(B) It cannot travel through a vacuum.**
   - **(C) It gets weaker if the charges are decreased.**
   - **(D) It gets stronger if the separation is decreased.**

29. **Which of the following devices does NOT use magnetism in its operation? (29)________**
   - **(A) AC generator**
   - **(B) DC motor**
   - **(C) relay**
   - **(D) potentiometer**

30. **Which of the following showed that the newly discovered electromagnetism could be used to produce motion, and thus, discovered the principle of the electric motor? .... (30)________**
   - **(A) Ampere**
   - **(B) Oersted**
   - **(C) Faraday**
   - **(D) Lenz**

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

PHYSICS 3204

NOVEMBER 1989

PART II

Value: 70 marks

Time: 2 hours, 15 minutes

GENERAL INSTRUCTIONS

1. Part II consists of essay items only arranged in two sections with requirements as follows:

   *SECTION A — Do **ONE** item only — 10%*
   *SECTION B — Do any **SIX** items — 60%*

2. Stencils may be used for drawing figures, and calculators may be used if desired. All drawings should be neat and well labelled.
3. One sheet of graph paper is provided for use in Item No. 2.
4. Answers are to be written in the answer booklet provided.

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Value

SECTION A

Investigative Skills

Do any **ONE** complete item from this section. Total value: 10%.

1. Two students want to investigate the relationship between the material a wire is made of and its resistance. They are given five wires made of different metals, a battery, a voltmeter and an ammeter.

3 (a) Draw a neat, labelled diagram to show how you would connect the given apparatus.

4 (b) Write a brief account of how you would carry out the investigation. You may use point form.

2 (c) What are two variables that must be controlled in this procedure.

1 (d) Name the independent variable.

2. The following data were obtained in a high school physics lab. A student, using a microphone, a small hammer and a microcomputer (as a timer), found the speed of sound through a bar of metal alloy which was placed in an insulated box. The temperature of the box could be controlled by using a small heater coil connected to an adjustable thermostat.

Temperature (°C)	20	25	30	35	40	45	50	55
Speed (m/s)	540	555	570	585	600	615	630	645

2 (a) Plot a graph for the data. Place temperature on the x-axis (horizontal) and speed on the y-axis (vertical). Make sure the temperature axis starts at zero.

2 (b) Calculate the slope for the graph. Make sure you include units.

2 (c) Write an equation that relates the temperature and the speed. Don't forget to include the y-intercept; that is, the point at which the graph crosses the speed axis.

2 (d) Name the dependent and independent variables in this experiment.

2 (e) Use the relationship between the two variables to calculate the speed of sound in the bar at a temperature of 80°C.

SECTION B

Do any **SIX** complete items from this section. Total value: 60%.

3 3. (a) You strike two tuning forks, one 256 hz and the other 250 hz. Explain what you hear. What is this phenomenon called?

3 (b) Most school gymnasiums also are used as auditoriums. Explain the problem that arises when a large, bare, gymnasium is used for a band concert.

2 (c) Explain the term "Standing Wave".

(d) A standing wave whose fundamental frequency is 200 hz is set up on a 50 cm stretched string.

1 (i) Calculate the frequency of the sound overtone (third harmonic)

1 (ii) Calculate the wavelength of the second overtone.

4. (a) A light beam is incident on the surface of a rectangular piece of glass at an angle of incidence of 25°. On passing into the glass, the beam bends at an angle of refraction of 15°.

2 (i) Draw a diagram to show this situation. Label the angles of incidence and refraction.

2 (ii) Use Snell's Law to calculate the index of refraction for the glass block.

Value

3 (b) Briefly explain how the discovery of the bright spot (Poisson's) by Fresnel was a victory for the wave model of light over the more accepted particle theory.

3 (c) With the aid of a diagram, explain why we can still see the sun for a brief period even though it has actually set.

4 5. (a) An object, 2 cm high, is placed 8 cm in front of a concave mirror whose focal length is 5 cm. Use **EITHER** a ray diagram **OR** an algebraic technique to completely describe the resulting image.

3 (b) State the **THREE** important characteristics of a telescope that an astronomer would consider when he purchases a new instrument.

3 (c) Explain **THREE** variables (settings) that can be changed when taking a picture with a 35 mm camera.

2 6. (a) Galileo tried to measure the speed of light between two distant mountain tops. How far apart would the mountains have to be in order for the light to take 0.5 seconds to travel from one mountain to the other. The speed of light in air is 3.0×10^8 m/s.

3 (b) How could you determine whether sunglasses are made of polarizing material or tinted glass?

3 (c) If you rub an inflated balloon against your hair and then place it against a wooden door, it will stick. Explain.

2 (d) What is the principal difference between a refracting telescope designed for astronomical use and one designed for terrestrial use?

4 7. (a) As a positively charged rod is brought near a partially charged electroscope, the leaves fall together and then separate. With the use of diagrams and a brief explanation, describe what happens to the charges on the electroscope.

4 (b) Two charges of 10 microcoulombs and 20 microcoulombs are separated by a distance of 0.2 metres. If the electric constant $k = 9 \times 10^9$ N – m²/C², determine the electric force between the charges.

2 (c) State the law of conservation of electric charge.

2 8. (a) Sketch a diagram to illustrate the field between two oppositely charged spheres.

(b) A circuit consists of a 12-volt battery connected to three series resistors of 12, 8, and 4 ohms.

2 (i) Draw a circuit diagram

2 (ii) Place a voltmeter and an ammeter in the diagram to measure the potential drop and the current through the 4-ohm resistor.

4 (iii) Calculate the total current in the circuit and the potential difference across the 4-ohm resistor.

4 9. (a) An electrician, wiring a kitchen with 110 volt AC, is told that the owner has the following small appliances: a 500-watt toaster, a 1200-watt kettle, a 100-watt can opener, a 200-watt radio/tv and a 1000-watt frying pan. How many 15-amp circuits must the electrician provide?

4 (b) At 8 cents per megajoule, what is the cost of operating the 1000-watt frying pan on a 110-volt line for 30 minutes?

2 (c) The north pole of a bar magnet is pushed toward an end of a coil of wire connected to an ammeter. The magnet induces a current to flow in the coil. Show how Lenz's Law may be used to determine the magnetic polarity of the coil while the current is flowing.

3 10. (a) During a cold wave, when the demand for electricity is exceptionally high, the power line coming from a hydro generating plant is blown down and severed. If the volume of water through the turbine is not quickly decreased, what will happen to the turbine generator. Use Lenz's Law (energy conservation) to help explain.

2 (b) Briefly explain **TWO** reasons why a fuse panel is used as part of the electrical wiring of a modern home.

Value

3 (c) **EITHER**

(i) Draw a labelled diagram of an electrical relay and state for what purpose it is used.

OR

(ii) Draw a diagram of a potentiometer and state its purpose.

2 (d) Explain why an induction coil is required in any vehicle that uses a gasoline engine.

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

ENVIRONMENTAL SCIENCE 3205

NOVEMBER 1989

Value: 100 marks

Time: 3 hours

GENERAL INSTRUCTIONS

1. The examination consists of essay items only, arranged in three sections with requirements as follows:

   *SECTION A — Do **ALL** items — 20%*
   *SECTION B — Do **ALL** items — 50%*
   *SECTION C — Do **ITEM 9**, and any **ONE OTHER** — 30%*

2. One sheet of graph paper is provided for use in item # 6.

3. Answers are to be written in the answer booklet provided.

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- **Leaving the room**
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- **Completion of required information**
- **Use of unauthorized means, and penalties**

Value

SECTION A

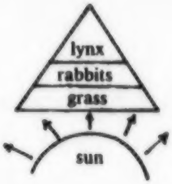
Do **ALL** items in this section. Total value: 20%.

4 1. (a) **EITHER**

Define mutalism and give **two** examples. Tell how each example shows symbiosis.

OR

Do (i), (ii), and (iii) below in reference to the following diagram showing a pyramid of numbers of the lynx:



(i) Why does the pyramid for the lynx have this shape?

(ii) Show what the pyramid would look like if its base were destroyed by fire.

(iii) The sun supplies energy to the plants. The lynx is only able to capture a small part of this energy. Why?

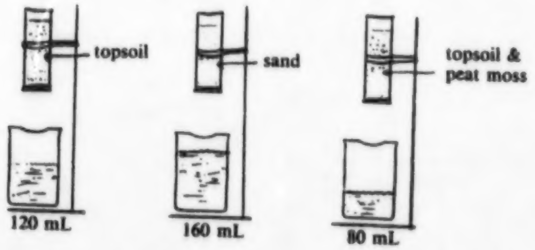
6 (b) Define clearly any **three** of the following — use examples and diagrams where possible:

(i) nutrients
(ii) fossil fuels
(iii) abiotic
(iv) pannes
(v) malaria

2. Do **ONE** part only — either (a) or (b).

(a) A group of students wanted to test the amount of water retained by three different types of soil. They set up the apparatus, as pictured below, then poured 200 mL of water into each tube. The following amounts of water were collected from each tube:

topsoil:	120 mL
sand:	160 mL
topsoil and peat moss:	80 mL



1 (i) Which type of soil retained the most water?

2 (ii) Why would topsoil be able to support a large plant population? (Use the results of this experiment only.)

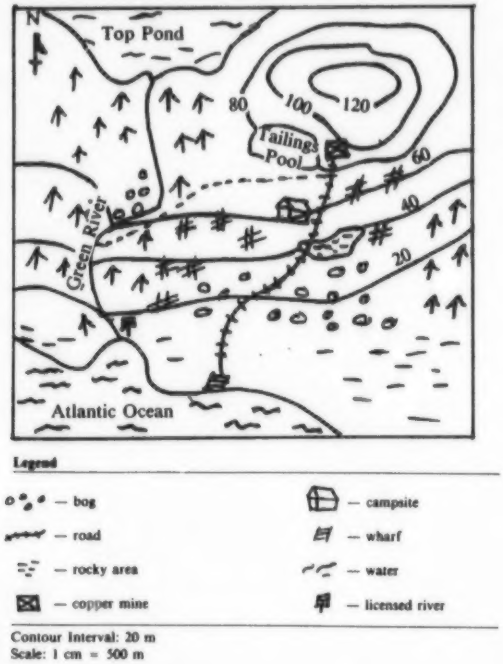
2 (iii) Why does a mixture of topsoil and peat moss retain more water than topsoil alone?

2 (iv) What properties determine how much water a type of soil can hold?

3 (v) How could a farmer with sandy soil improve the amount of water his soil can hold?

Value

2. (b) A group of students doing a field study of a remote area made a sketch as shown. Do parts (i) to (v) below based on this sketch.


N
Top Pond
80
100
120
Tailings Pool
60
40
20
Green River
Atlantic Ocean
Legend
— bog
— road
— rocky area
— copper mine
— campsite
— wharf
— water
— licensed river
Contour Interval: 20 m
Scale: 1 cm = 500 m

1 (i) How far is it from the wharf to the mine?

2 (ii) Identify **two** things on the map which indicate man's presence.

2 (iii) Give **two** reasons why people may have visited this area before the mine was built.

3 (iv) State **three** negative effects that the mine may have on this area in the future.

2 (v) Should the mine have been built in this area? Why or why not?

SECTION B

This section contains several items distributed throughout a case study focusing on Acid Rain. Read the study carefully and do **ALL** items as directed in each. Total value: 50%.

ENVIRONMENTAL IMPACT OF ACID RAIN

Fifteen years ago acid rain was unknown to all but a few scientists. Today it is not only well known to scientists but to the general public as well. Acid rain is causing economic, social and environmental problems in Newfoundland. It is increasing the acidity of our lakes and streams, and it is increasing the acidity of soil water and ground water. Acid rain is suspected of being one of the causes of forest declines. It is also a threat to some waterfowl populations.

3 3. (a) Define the term "acid rain".

3 (b) List **three** possible effects of acid rain on our environment.

Value

4 (c) **EITHER**

(i) Describe the effect of increasing the acidity level in a pond.

OR

(ii) Explain why the effects of acid rain may be greater in some areas than in others.

The acidic pollutants in acid rain originate as emissions of sulfur dioxide and oxides of nitrogen. Most of these pollutants come from three main sources: the burning of fossil fuels in thermal power plants, the burning of gasoline in motor vehicles, and the smelting operations of plants which refine nonferrous metal ores.

Once into the atmosphere, the oxides of sulfur and nitrogen are transformed by contact with sunlight, ozone and oxygen into higher oxides. These oxides then combine with moisture in the air to form sulfuric acid and nitric acid which fall to the earth in the form of precipitation.

3 4. (a) Name **three** major sources of acid rain.

3 (b) Describe how acid rain is produced in the atmosphere.

4 (c) Newfoundland has relatively low industrial activity, yet we still have an acid rain problem. Explain why.

In Newfoundland, sudden and intense acid doses often occur in the spring. As snow melts, the pollutants that accumulated in the snowpack over the winter are abruptly released. The meltwater has been measured to be as much as one hundred times more acidic than normal.

Studies have clearly demonstrated that certain species of trout, Atlantic salmon, and aquatic animals are particularly sensitive to changes in pH levels. Lower pH levels may interfere with reproductive processes and lead to skeletal deformities.

3 5. (a) Explain why there is a marked increase in the adicity level of ground water in the spring.

3 (b) Frogs breed in temporary pools formed by spring rains and melted snow. Explain why further increases in acid rain may be harmful for frogs and similar species.

4 (c) **EITHER**

(i) Explain why a fish farmer would be very concerned about spring runoff.

OR

(ii) What economic impact might lower pH levels of rivers, ponds and ground water have on an area?

Both Canada and the United States over the past two decades have been concerned with regulating sulfur dioxide emissions. The following table gives the emissions of sulfur dioxide for both Canada and the United States expressed in millions of tonnes.

Year	Millions of Tonnes of SO_2	
	Canada	United States
1970	2.1	5.1
1975	1.5	3.8
1980	1.4	3.6
1985	1.0	3.5
1986	1.2	3.2
1987	.8	3.0
1988	.7	2.7

Value

5 6. (a) Draw a properly labelled graph for the emissions of sulfur dioxide for both Canada and the United States. Do both countries on the same graph placing the year along the x-axis.

2 (b) What do these results suggest about what is happening to the amounts of emission of sulfur dioxide for both countries?

2 (c) Using your graph, predict the total sulfur dioxide emissions for both Canada and the United States in the year 1990.

1 (d) From your graph, determine if Canada is reducing its emissions at a faster rate than the United States.

> Governments in Canada and the United States have required industry to take steps to control and reduce the emissions of substances that produce acid rain. A low sulfur fuel for use in automobiles has been developed. Smelting operations that produce less sulfur dioxide are being used. Filters and chemical absorbents are being used to remove sulfur dioxide from flue gases before they go into the atmosphere. In general, both governments have raised the environmental standards to which industry must comply.

2 7. (a) State **two** ways government is trying to reduce acid rain.

3 (b) **EITHER**

(i) Why is government sometimes reluctant to force industry to adopt new pollution controls?

OR

(ii) Describe how you might help to reduce acid rain.

2 8. (a) Reducing the amount of acid rain may not be enough for our affected lakes and ponds to recover. How might we help restore lakes and ponds that have been damaged by acid rain?

3 (b) If Canada is to solve its acid rain problem, it needs an agreement on acid rain with the United States. Why?

SECTION C

Do item #9 and any **one** other from this section — **TWO** items in all. Total value: 30%.

7 9. (a) A waste disposal plant for toxic chemicals is about to be constructed near your community. Among the chemicals to be disposed of in this plant are PCB's and dioxin, two of the most deadly substances known. The project will employ 350 people for three years during construction and 60 permanent employees when the plant is in operation. Would you be **FOR** or **AGAINST** this project? Explain your position, using at least **four** reasons to support your view.

6 (b) For the past decade in Newfoundland, we have been using chemical sprays to control insects that have been attacking our forest.

(i) What are two problems associated with the use of chemical sprays.

(ii) Suggest and describe an alternate way we might control the insects destroying our forest.

(iii) Which method do you think is better for Newfoundland. Why?

2 (c) List **two** points stated in the International Law of Outer Space.

6 10. (a) (i) In a paragraph or two describe the effects of a major oil spill off the East Coast of Newfoundland.

(ii) Suggest **two** ways you might clean up this oil spill.

(iii) State two factors that will determine how effectively you can clean up the oil spill.

Value

6 (b) Currently, there is a Brazilian power plan that calls for the construction of 136 hydro dams in the Amazon region. This will cause widespread flooding and destroy 25 million hectares of tropical rainforest. Give at least three reasons why there is global concern over this plan.

3 (c) What is meant by fail-safe-technology? Why is it necessary when using nuclear power?

5 11. (a) What are some of the world's ocean resources that are protected and regulated by the International Law of the Sea? What impact does this have on Newfoundland?

6 (b) Today many people are becoming concerned about the state of our world's environment. List three major environmental problems that exist today and briefly discuss ONE of them.

4 (c) Fossil fuels are running out and cannot be replaced. Briefly describe two other potential sources of energy.

DO NOT OPEN THE EXAMINATION PAPER UNTIL YOU ARE TOLD BY THE SUPERVISOR TO BEGIN.

DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

WORLD HISTORY 3201

NOVEMBER 1989

Value: 100 marks

Time: 3 hours

GENERAL INSTRUCTIONS

1. The examination consists of essay items only arranged in three sections with requirements as follows:

   SECTION A — Do any ONE complete item — 16%
   SECTION B — Do any FOUR complete items — 64%
   SECTION C — Current Events — Do any TWO complete items — 20%

2. Answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

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— Materials required
— Materials not permitted
— Use of handheld calculator
— Use of pen or pencil
— Communication and movement during the examination
— Punctuality
— Leaving the room
— Use of answer booklets
— Completion of required information
— Use of unauthorized means, and penalties

Value

SECTION A

Do any **ONE** complete item from this section. Total value: 16%.

1. By 1900, the means of production in Western Europe and North America had moved completely out of the home and into the factory.

3 (a) Differentiate between the **factory** system and the **domestic** system.

7 (b) Two new developments were crucial to mass production. These were the concepts of the **assembly line** and **interchangeable parts**. Why were these concepts so important?

6 (c) The industrialization of Europe could only result through the combined efforts of science, technology, and change in the system of finance. Briefly describe how these forces contributed to industrial growth. Use examples.

2. Industrialization, coupled with the rise of great industrial cities, created living and working conditions that called for new ways of looking at society, work and government.

3 (a) Name **three** people who put forward new ideas on politics, science, economics, or social organization in the nineteenth century.

7 (b) Why was Darwin's Theory of Evolution attacked by the churches?

6 (c) The founders of communism insisted that workers under capitalism would become so miserable and downtrodden that they would eventually rise in revolt against their governments and the capitalist system. Why did this prediction not come about in any of the Western European nations?

3. By 1900, the industrialized nations of the West had gained control over practically all of Africa, much of Asia and a significant portion of Latin America. This was the golden age of imperialism.

3 (a) Identify **three** of the major imperialist nations.

7 (b) Briefly explain why the nations of the West became interested in acquiring colonies during this period in history.

6 (c) In a short discussion, evaluate the impact of imperialism on the underdeveloped world.

SECTION B

Do any **FOUR** complete items from this section. Total value: 64%.

4. World War I has been looked upon as inevitable. In the years preceding 1914, alliances were forged as Europe settled into two heavily armed camps. Overseas competition for colonies caused hostilities in Europe. An aggressive nationalism prevailed. And everywhere, there was a military build-up.

3 (a) Identify **EITHER three** of the Central Powers **OR three** of the Allied Powers.

7 (b) With reference to one or more examples, describe how imperialism contributed to the outbreak of war.

6 (c) The Germans sued for peace in 1918 on the basis of President Wilson's Fourteen Points. Given the peace settlement that emerged at Versailles, did the Germans have reason to believe that they were unjustly treated?

5. Between the two world wars, there emerged in Europe a new political philosophy that took root in Germany, Italy and Spain. It was called "Fascism".

3 (a) Briefly outline the fascist attitude toward war.

7 (b) The various fascist parties that came to power in Europe in the inter war period were very similar in their basic beliefs. Outline these basic beliefs.

6 (c) Radical movements such as fascism are usually successful in countries experiencing chaotic economic and political conditions. To what extent does economic and political chaos account for the rise of the Nazi in Germany?

Value

6. When war broke out in 1939, the Axis powers quickly overran much of Europe, and seemed destined to bring the democratic world to its knees. Eventually, the tide turned and the Allies were finally able to defeat the Fascists in 1945.

3 (a) Name the **three** leading Axis powers.

7 (b) Outline the extent of the Fascists' conquest worldwide.

6 (c) Identify some of the factors which account for the Allied success.

7. Following the War in 1945, it quickly became obvious that serious differences existed among the Allies, notably the United States and the Soviet Union. Even before the guns [of World War II] fell silent, the Cold War was beginning. A "communist scare" spread throughout the West as it watched an aggressive communism swallow up Eastern Europe and threaten several other areas of the world.

3 (a) Define the term "Cold War".

7 (b) What basic political and economic differences existed between the capitalist West and the communist East that made them natural enemies?

6 (c) Did the West have good reason to fear communism, and how did they, led by the United States, try to halt its spread?

8. In the wake of World War II, the great empires that had been created during the nineteenth century began to break up. New independent nations began to emerge in Latin America, Africa and Asia. Despite the high hopes that came with independence, the last forty years have been difficult ones for many countries.

3 (a) Name **three** countries that have achieved independence since 1945.

7 (b) Briefly describe **three** major problems faced by these new nations.

6 (c) One African leader once said: "Africans would rather be governed poorly by themselves than be governed well by foreigners". With reference to specific countries, have Africans governed themselves well, or poorly?

9. In the last forty years, peace has often seemed like an impossible quest in many parts of the Middle East, Latin America and Southeast Asia. Local wars, often with international involvement and implications, still trouble these regions.

3 (a) Name **one** country from **each** of the **three** regions that has suffered the effects of war since 1945.

7 (b) With reference to any **one** of these conflicts, name the participants, briefly describe **one** cause of the conflict, and suggest what the outcome was.

6 (c) Identify **one** conflict in which a superpower has been involved. Briefly discuss the nature of the involvement — political, military, economic — and assess its impact on the outcome.

SECTION C

Current Events

Do any **TWO** complete items from this section. Total value: 20%.

10. Eight years ago, President Reagan of the United States called the Soviet Union "the evil Empire". Today relations between the two superpowers is very much improved. Further progress is possible in the future.

5 (a) Why have relations improved between the two superpowers in the last few years?

5 (b) How has friendlier relations affected the arms race?

Value

11. Two years ago, Boris Yeltsin was fired from a powerful position in the Soviet Government because he advocated change that was just too radical. In free country-wide elections held in March, 1989, Yeltsin was elected to a new Assembly of Deputies with an overwhelming majority despite opposition from the Communist Party.

3 (a) What does Yeltsin's victory say about the state of democracy in the Soviet Union today?

3 (b) What accounts for the radical changes that are occuring in the Soviet Union today?

4 (c) Discuss what effect this democratic trend in the Soviet Union may have on other Warsaw Pact countries.

12. In the last year, terrorism has assumed a new form. The Ayatollah Khomeini of Iran had put a price on the head of Salman Rushdie, author of **The Satanic Verses.**

4 (a) Why has **The Satanic Verses** so angered Muslims?

3 (b) How have the Western democracies reacted to the Ayatollah's order to kill Rushdie?

3 (c) What has been Canada's response to the Rushdie Affair?

13. South Africa and the Middle East continue as major sources of trouble in the world. War constantly threatens in the Middle East while in South Africa, the policy of apartheid provokes trouble at home, and reprisals abroad.

5 (a) The Palestinian-Israeli question is now focused on the West Bank. Explain why the West Bank has been the source of so much attention in the last year or so.

5 (b) Both the Palestinian situation and the South African problem are cause for concern among many nations of the world. Choose **one** of these situations, and tell how other nations, including Canada, are trying to bring pressure to bear that would result in a resolution of the problem.

10 14. The following refer to advances or problems that have occurred or are ongoing in the world of science and technology. Write a sentence or two on each of **five** of those listed, outlining the significance or importance of each.

(a) stealth technology
(b) superconductivity
(c) acid rain
(d) destruction of the ozone layer
(e) genetic engineering
(f) pesticide spraying of food
(g) the destruction of the world's rain forest
(h) Professor Philippe Rushton's racial theories

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

WORLD GEOGRAPHY 3202

NOVEMBER 1989

PART I

Value: 30 marks

Time: 40 minutes

Examination Number ____________________

GENERAL INSTRUCTIONS

1. Part I consists of thirty multiple-choice objective items at one mark each, and candidates are required to do **all** items.
2. All answers are to be written in this paper.
3. Be sure to write your Examination Number in the space provided above.

REGULATIONS FOR CANDIDATES

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— Use of unauthorized means, and penalties

Write the letter of the correct response for each of the following in the blank at the right. Total value: 30%.

1. What is a narrow landform that connects two larger land areas? .... (1)________
(A) tombolo
(B) peninsula
(C) isthmus
(D) spit

2. What is a narrow channel of water connecting two larger bodies of water? (2)________
(A) gulf
(B) sea
(C) strait
(D) bay

3. What is a ridge of sand and gravel formed by a glacial river under a glacier as it retreats? .... (3)________
(A) esker
(B) drumlin
(C) outwash plain
(D) arete

4. What is a sand bar that connects an island to the mainland? .... (4)________
(A) hook
(B) tombolo
(C) esker
(D) delta

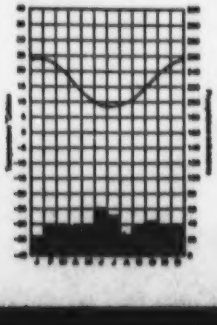
5. In which regions is solar energy largely reflected back into the atmosphere? (5)________
(A) low latitudes
(B) doldrums
(C) mid latitudes
(D) high latitudes

6. Which of the following refers to dry conditions created on the leeward sides of mountains when moist winds cause precipitation on the windward sides? (6)________
(A) digitate
(B) arcuate
(C) fohn
(D) rain shadow

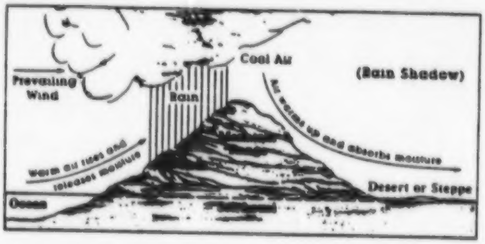
7. Which one of the following does NOT characterize a humid tropical climate? (7)________
(A) very large amounts of rainfall
(B) convectional rainfall
(C) potential evaporation exceeding precipitation
(D) dense, green forests

8. What are the seasonal winds of Southeastern Asia called? .... (8)________
(A) Trade Winds
(B) Westerlies
(C) Polar Easterlies
(D) Monsoons

9. Which one of the following best describes the climate in the graph below? (9)________
(A) located in the Southern Hemisphere with hot, dry summers and cool, wet winters
(B) cool, wet summers
(C) hot, dry summers with evenly distributed precipitation
(D) located in the Northern Hemisphere with cool, wet summers and hot, dry winters



10. Which type of rainfall is illustrated in the diagram below? .... (10) ______
(A) convectional
(B) frontal
(C) maritime
(D) orographic


Prevailing Wind
Cool Air
(Rain Shadow)
Rain
Warm air rises and releases moisture
Air warms up and absorbs moisture
Desert or Steppe
Ocean

11. Which of the following makes up the D Horizon of a typical soil profile? (11) ______
(A) altered parent material
(B) grey to black topsoil containing humus
(C) unaltered parent material
(D) reddish or yellowish brown clay-loam subsoil

12. Which plant life is characteristic of desert areas? .... (12) ______
(A) savanna
(B) laterites
(C) xerophytes
(D) tall grasses

13. Which of the following is a process whereby fine particles of insoluble inorganic matter are transported downward through the soil? .... (13) ______
(A) capillary action
(B) leaching
(C) accumulation of humus
(D) eluviation

14. What term refers to the zone of water, land, and air that supports life? .. (14) ______
(A) ecosystem
(B) biosphere
(C) food chain
(D) decomposer

15. What are the mid-latitude grasslands of North America called? .... (15) ______
(A) savannas
(B) downlands
(C) prairies
(D) velds

16. Which one of the following is NOT found in a forest ecosystem? .... (16) ______
(A) taiga
(B) selva
(C) combretum
(D) steppe

17. Which one of the following statements about highland ecosystems is NOT true? (17) ______
(A) An increase in altitude causes a temperature drop.
(B) Soil profiles are well developed.
(C) Vegetation varies with altitude.
(D) Population density is usually low.

18. In a given year there are 567,301 live births and 562,397 deaths. What term refers to the population change that occurred? .... (18) ______
(A) zero population growth
(B) natural decrease
(C) actual change
(D) natural increase

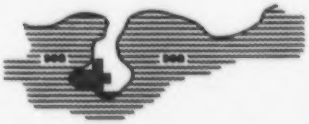
19. Which one of the following is an example of an exponential rate? .... (19) ______
(A) 1, 2, 4, 8, 16, 32, 64, 128
(B) 2, 4, 6, 8, 10, 12, 14, 16
(C) 10, 15, 20, 25, 30, 35, 40
(D) 1, 2, 3, 4, 5, 6, 7, 8

20. A famine breaks out in Country A causing people to move to Country B. The famine is an example of which of the following? .... (20) ______
(A) push factor
(B) pull factor
(C) repel factor
(D) intervening obstacle

21. Which one of the following is NOT a primary activity? .... (21) ______
(A) forestry
(B) paper production
(C) mining
(D) herding and cattle raising

22. Which of the following would best describe land ownership in many traditional African communities? .... (22) ______
(A) mixed
(B) communal
(C) state ownership
(D) private

23. What type of site is illustrated in the diagram below? .... (23) ______
(A) peninsula
(B) confluence
(C) head-of-navigation
(D) sheltered-harbour



24. What term refers to agricultural practice whereby several crops are grown together in the same clearing? .... (24) ______
(A) migratory
(B) intertillage
(C) plantation
(D) agribusiness

25. Which one of the following is an example of an administrative city? ..... (25) ______
(A) Montreal
(B) Hamilton
(C) Antwerp
(D) Brazilia

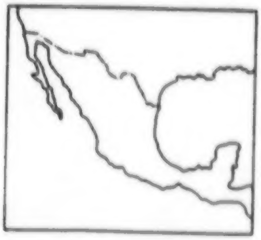
26. Selling insurance, providing legal aid, and serving gasoline are all examples of which form of activity? .... (26) ______
(A) primary
(B) secondary
(C) tertiary
(D) subsistence

27. Which of the following locations would be referred to as a head-of-navigation site? .... (27) ______
(A) where two rivers meet
(B) where rapids interrupt continuous navigation on a river
(C) where the river can be easily bridged
(D) at an island located in the river

28. What type of transportation linkage is best suited to short distances? .... (28) ______
(A) water
(B) air
(C) road
(D) rail

29. Which distances are used to determine the transferability of goods? ...... (29) ______
(A) physical and time
(B) cost and time
(C) physical and cost
(D) physical, cost, and time

30. What type of boundary is illustrated by the dotted line on the map below? (30) ______
(A) natural
(B) political
(C) cultural
(D) line



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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

WORLD GEOGRAPHY 3202

NOVEMBER 1989

PART II

Value: 70 marks

Time: 2 hours, 20 minutes

GENERAL INSTRUCTIONS

1. Part II consists of essay items only, arranged in three sections with requirements as follows:

   SECTION A — Do any FIVE items — 20%
   SECTION B — Do any FOUR items — 40%
   SECTION C — Do ALL items — 10%

2. Answers are to be written in the answer booklet provided.

3. You may draw diagrams where they can support your answers.

REGULATIONS FOR CANDIDATES

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Value

SECTION A

Do any **FIVE** items from this section. Total value: 20%.

4. 1. Distinguish between the terms in any **TWO** of the following pairs:

(a) rank-size/primacy city
(b) natural population change/actual population change
(c) physical landscape/cultural landscape
(d) immigration/emigration

4 2. Explain how **TWO** of the following factors affect climate:

(a) ocean currents
(b) latitude
(c) elevation

4 3. With the aid of a diagram, explain how the tilt of the earth and its orbit around the sun cause the changes in the seasons.

4 4. Select **TWO** of the following and indicate how they influence land use decisions:

(a) environment
(b) cultural values
(c) economic development

4 5. Name and briefly describe four factors which determine the location of an industry.

4 6. Modern cities often serve different primary functions, and thus, may be regarded as, for example, commercial or industrial or transportation centres. Explain the difference between any **TWO** of these functional designations: commercial, industrial, transportation.

4 7. Briefly explain why linkages in a traditional society with a subsistence economy tend to be poorly developed.

SECTION B

Section B contains eight items in all, one on each of eight world regions. Select and do the items as directed on any **FOUR** of these regions. Total value: 40%.

8. **NORTH AMERICA**

4 (a) Do **ONE** part only — either (i) or (ii).

(i) How did Harold Innis, in his Staples Theory, explain Canada's history of settlement?

(ii) What arguments may be given in favour of the operation of foreign firms in Canada? What arguments may be given against it?

6 (b) Do **TWO** only of parts (i) to (iii).

(i) Explain why many Canadians often feel that foreign investment has not been in the best interest of Canada.

(ii) Agribusiness is a modern development. Explain how it operates.

(iii) Why has the acid rain problem between Canada and the United States been difficult to settle?

Value

9. **LATIN AMERICA**

4 (a) Describe the problems that **either** Brazil **or** Argentina has had to overcome in order to develop its resources.

6 (b) Do **ONE** part only — either (i) or (ii).

(i) What developments made it possible for the pampas to become the agricultural heartland of Southern Latin America?

(ii) Why is Paraguay one of the poorest countries of Latin America?

10. **EUROPE**

4 (a) Do **ONE** part only — either (i) or (ii).

(i) Why does Northern Italy have a fairly high standard of living?

(ii) What economic conditions in Southern Italy tend to hamper economic development?

6 (b) Fully describe the core-periphery relationship that exists between Western Europe and Southern Europe. In your answer, refer to the characteristics of the core, and how they differ from those of the periphery.

11. **THE SOVIET UNION**

4 (a) Do **ONE** part only — either (i) or (ii).

(i) What effects does the national goal of strengthening the economy as a first priority often have on the living conditions of the Soviet people?

(ii) What factors account for the heavy concentration of industry in the Greater Moscow area?

6 (b) Do **TWO** only of parts (i) to (iii).

(i) What factors make the Ukraine well suited for agriculture?

(ii) Why was the Virgin Lands Program established?

(iii) Which factors tend to hinder the development of the rich resources of Eastern Siberia?

12. **ASIA**

4 (a) Do **TWO** only of parts (i) to (iii).

(i) What social factors help explain the high rate of population growth in some Asian countries?

(ii) Explain how the Himalayas act as both a cultural and a natural boundary.

(iii) What role has Hong Kong played in the relationship between China and the rest of the world?

6 (b) Do **TWO** only of parts (i) to (iii).

(i) What disadvantages did Japan have to overcome in attaining economic success?

(ii) What problem does the huge population of Southeast Asia cause?

(iii) Why did European countries want colonies in Southeast Asia?

Value

4 13. **AFRICA SOUTH OF THE SAHARA**

(a) Do **TWO** only of parts (i) to (iii).

(i) How does elevation influence Africa's climate?

(ii) What are the major problems facing sub-Saharan agriculture?

(iii) How do Western nations benefit from foreign aid to the Third World?

6 (b) Do **TWO** only of parts (i) to (iii).

(i) Identify three factors that have helped retard the development of land linkages in sub-Saharan Africa.

(ii) Independence for some African nations did not immediately bring positive results. Why?

(iii) How does Canada benefit from the foreign aid it gives?

14. **NORTH AFRICA AND THE MIDDLE EAST**

4 (a) Do **TWO** only of parts (i) to (iii).

(i) Why are North Africa and the Middle East called "a crossroads of the world"?

(ii) What is the Armenian Knot?

(iii) What two major land uses are thought to have begun in this region thousands of years ago?

6 (b) Do **ONE** part only — either (i) or (ii).

(i) Where do most of the people in North Africa live? Why?

(ii) What problems have the oil resources and the profits from them created in some North African countries?

15. **SOUTH PACIFIC REGIONS**

4 (a) Do **ONE** part only — either (i) or (ii).

(i) Give two reasons why countries outside Oceania, like the United States, are interested in the islands of the South Pacific area?

(ii) What are the major economic activities of New Zealand?

6 (b) Do **TWO** only of parts (i) to (iii).

(i) What are the three main island groups of Oceania called?

(ii) What is the difference between the high and the low islands of Oceania?

(iii) What problems have been experienced in the South Pacific islands as the area has become more accessible?

Value

SECTION C

This section contains a case study. Read the case study carefully, and do **ALL** of the items based on it. Total value: 10%.

Challenge of Siberia:
Conquering Riches and Cold

NERYUNGRI, USSR — The center of Neryungri is known as "Stary Gorod" — "the Old City." It's all of 10 years old ...

By the standards of the towns and industries springing up along the track of the Baikal-Amur Mainline (BAM), Neryungri is indeed almost old ...

Ten years ago, Neryungri was a group of cabins in a forest clearing. It housed geologists and miners plotting ways of trapping the riches in high-quality coal that lie just below the surface ... The first load of Neryungri coal was sent by train on October 26, 1978.

Smog covers the valley where 35,000 people now live, joined by a thousand more each month. Huge skeletons of steel and concrete are rising on all sides. The work continues long after the short northern day ends — on a bread factory for a population expected to reach 100,000 within a few more years, a large heat and power plant, a coal-processing plant.

To Soviet planners, Neryungri is a model of Siberia's future. It is one of the first instant industrial centers ... Neryungri is a bid to move the Soviet Union's center of industry eastward toward the untold mineral and forest riches of Siberia ...

The BAM is the key to the project. It is a $14 billion railroad whose 3,200 kilometers of track will open the door to some of the world's richest deposits of iron ore, coal, asbestos, copper, and other treasures. It will shift the Soviet Union's economic heart from the west, where 80 percent of the industry now lies, to the east, where 80 percent of its minerals lie hidden ...

At construction projects in Siberia, everything from labor to food must be imported. Machinery shatters from the cold, and costs rise. The original estimates for Neryungri were about $2 billion; the actual costs seem to be running around $6.3 billion. Eighty percent of the workers were going to be single, but 80 percent came married, causing a shortage of housing, schools, and social facilities ... The workers, too, suffer. The cost of encouraging them to come to Siberia is high. The cost of supporting one worker can run as much as $28,000 a year ... But getting and keeping workers remain a problem in the development of any place in Siberia. Most workers, it seems, still remain home after finishing their three-year tour of duty.

Those three years can be hard. Although there are more food and consumer goods here than in the stores of western Soviet Union, most new families must still spend months, if not years, in small one-room apartments. Their children ususally go to the evening shift school. Tickets to the movie house are rare.

Adapted from the NEW YORK TIMES,
January 26, 1982

2 16. (a) Why are the Soviet planners developing new cities in eastern Siberia?

2 (b) Why is it important for the Soviet Union to build the BAM railway?

2 (c) In your opinion, what would be the advantages and disadvantages of living in Neryungri?

4 17. Describe what is meant by the statement that the U.S.S.R.'s "economic heart is in the west".

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DEPARTMENT OF EDUCATION
PUBLIC EXAMINATIONS

WORLD PROBLEMS 3204

NOVEMBER 1989

Value: 100 marks — Time: 3 hours

GENERAL INSTRUCTIONS

1. The examination consists of essay items only arranged in three sections with requirements as follows:

   SECTION A — Do any FIVE complete items — 50%
   SECTION B — Do #8 and any one other — TWO items in all — 30%
   SECTION C — Do any TWO complete items — 20%

2. Answers are to be written in the answer booklet provided.

REGULATIONS FOR CANDIDATES

Candidates are expected to be thoroughly familiar with all regulations pertaining to their conduct during the examinations. These were explained by the Chief Supervisor prior to the first session, and have been posted for further reference near the entrance to the examination room. Candidates should ensure that they understand and comply with all requirements governing the following matters:

- Materials required
- Materials not permitted
- Use of handheld calculator
- Use of pen or pencil
- Communication and movement during the examination
- Punctuality
- Leaving the room
- Use of answer booklets
- Completion of required information
- Use of unauthorized means, and penalties

Value

SECTION A

Do any **FIVE** complete items from this section. Total value: 50%.

2 1. (a) How is the population problem in the Third World different from what it is in the industrially developed world?

8 (b) Explain at least **THREE** social and/or economic factors that contribute to the population problem in the Third World.

10 2. There is widespread hunger in the world, especially in the Third World; yet there is more than enough food to feed everyone adequately. Explain how **TWO** of the following cause world hunger.

(a) Land ownership

(b) Agribusiness (multi-national corporations in the food business)

(c) International trade patterns

(d) Cash crop farming

4 3. (a) Comment on **TWO** benefits which industrialization brings to a country.

6 (b) Industrialization also brings with it problems and concerns. Comment on **THREE** problems that industrialized societies have to face.

4. North Americans make up 6% of the world's population and consume 35% of the world's energy.

6 (a) Name **THREE** reasons why we in North America use so much energy.

4 (b) What have we done in recent years in North America to reduce the per capita consumption of energy?

3 5. (a) Despite different lifestyles there are certain basic desirables common to all people. Identify **THREE** of these universal desirables.

2 (b) Name **TWO** non-material desirables that improve quality of life wherever you live.

5 (c) "It's a man's world", especially in the Third World. In a paragraph or two, explain why the quality of life for women is inferior to that for men in the developing world.

4 6. (a) Give **FOUR** reasons why people might wish to emigrate to Canada.

6 (b) The question of immigration often evokes heated debate. Explain why some Canadians oppose immigrants coming to this country.

7. Frontier/border problems have always had an impact on international relations.

2 (a) In what sense is Acid Rain a border problem?

8 (b) Today, the last two frontiers are the oceans and space. Comment on the issues and concerns associated with each of these "frontiers".

Value

SECTION B

Do item number 8 and any one other item from this section — **TWO** items in all. Total value: 30%.

8. Read the selection below and do **ALL** parts of this item following it.

TOO MANY MOUTHS

by

Anastasia Toufexis

Close to the Zocalo, Mexico City's great central square, lies the barrio of Morelos, a vast warren of dusty, potholed streets and narrow entryways. The passages lead to a gloomy world. On each side of the roofless patio is a ten-room jumble. Each room holds a family; each family averages five people. The only bathrooms — two to serve 100 people — are located at the back of the patio. The odor of grease and sewage permeates the air. Flies buzz relentlessly. The people who live here are considered lucky.

In the shantytowns on Mexico City's outskirts, tens of thousands of people shelter in huts made of cardboard with aluminum roofs. There is no running water and no sanitation. The stench is overpowering: garbage and human waste heap up in piles. Rats roam freely, like stray domestic animals.

To the more privileged, those scenes look like a science fiction vision of civilization's breakdown, perhaps after a nuclear war. In fact, Mexico City has been described as the ante-room to an ecological Hiroshima. With 20 million residents — up from 9 million only 20 years ago — the Mexican capital is considered the most populous urban center on earth. Mexico City has been struck not by military weapons but by a population bomb.

Ultimately, no problem may be more threatening to the earth's environment than the proliferation of the human species. Today the planet holds more than 5 billion people. During the next century, world population will double, with 90% of that growth occurring in poorer, developing countries. African nations are expanding at the fastest rate. During the next 30 years, for example, the population of Kenya (annual growth rate: 4%) will jump from 23 million to 79 million; Nigeria's population (growth rate: 3%) will soar from 112 million to 274 million. Expansion is slower in Brazil, China, India and Indonesia, but in those countries the sheer size of existing populations translates into a huge increase in people.

In the poorest countries, growth rates are outstripping the national ability to provide the bare necessities — housing, fuel and food. Living trees are being chopped down for fuel, grasslands overgrazed by livestock, and croplands overplowed by desperate farmers. Horrifying images of starvation in northeastern Africa have captured world attention in the past decade. In India, according to government reports, 37% of the people cannot buy enough food to sustain themselves. Warned Shri B.B. Vohra, vice chairman of the Himachal Pradesh state land-use board in northern India: "We may be well on the way to producing a subhuman kind of race where people do not have enough energy to deal with their problems.

(TIME, January 2, 1989)

5 (a) Why does the writer refer to Mexico City as "the ante-room to an ecological Hiroshima"?

5 (b) If Thomas Malthus were to come back to life and read the above article, what do you think his reaction would be?

5 (c) In your opinion, which paragraph makes the most dramatic argument regarding overpopulation as a very serious global problem? Explain your choice.

15 9. Write an essay on the population explosion in the Third World using the following quotation as the theme: "Development is the best contraceptive". In your answer you should explain what the speaker meant, and discuss whether the statement is valid.

15 10. Recent studies indicate that despite all the efforts over the years, the gap between the poor and the rich nations is widening. Write an essay in which you show why this is the case and what can be done to reverse the trend.

15 11. Both the First World and the Second World are industrially developed, yet these "worlds" have different approaches to doing things. Write an essay in which you discuss how these two "worlds" are different. Your essay should indicate the strengths and weaknesses of each system.

Value

SECTION C

Current Affairs

Do any **TWO** complete items from this section. Total value: 20%.

12. International terrorism was a concern in 1988 as it has been in most years of the past decade.

4 (a) Why is it difficult to define who is a terrorist? Refer to specific groups to illustrate your point.

4 (b) How did the reaction to **The Satanic Verses** add a new twist to terrorism during the past year?

2 (c) What important step regarding terrorism did the Palestinian Liberation Organization take this year?

2 13. (a) In what way was the Seoul Olympic Games different from the games in Moscow (1980) and in Los Angeles (1984)?

4 (b) Was Ben Johnson the "tragic hero" of the Seoul Olympics? Explain your response.

4 (c) What were the positive achievements of Canadian athletes at these games?

14. "Glasnost" is a term we have come to associate with the Soviet Union since Gorbachev became leader.

3 (a) How was glasnost apparent during the catastrophe that struck Soviet Armenia?

3 (b) How has glasnost created problems for Gorbachev in governing the vast Soviet state?

4 (c) How has glasnost improved the prospects for world peace?

15. Canada's relations with other countries have always had an important effect on Canadians.

2 (a) What major issues have dominated Canada's relations with the U.S.A. during the past year?

4 (b) How could these issues have a very significant impact on Canadian society?

4 (c) Identify and comment on an issue that has affected Canada's relation with France in 1988.

10 16. One magazine declared that 1988 was the year when "peace broke out". With respect to **TWO** of the following, explain to what degree you agree that "peace did break out!".

(a) The Iran-Iraq Conflict

(b) The Afghanistan War

(c) The Palestinian Issue